DRAFT

New York's Coordinated Research, Development, and Technology Transfer Program

ROBERT J. PERRY
OSSAMA ABD ELRAHMAN

TRANSPORTATION RESEARCH AND DEVELOPMENT BUREAU
NEW YORK STATE DEPARTMENT OF TRANSPORTATION
John B. Daly, Commissioner

NEW YORK'S COORDINATED RESEARCH, DEVELOPMENT, AND TECHNOLOGY TRANSFER PROGRAM

Robert J. Perry, Director, Transportation Research and Development Bureau
Ossama Abd Elrahman, Engineering Research Specialist

August 1995

TRANSPORTATION RESEARCH AND DEVELOPMENT BUREAU
New York State Department of Transportation
State Campus, Albany, New York 12232-0869

EXECUTIVE SUMMARY

Background and Purpose

NYSDOT has established as one of its goals to advance its role as a national transportation leader through development of innovative, breakthrough ideas in technology and research. Definition of this goal coincided with the Management Systems Bureau's February 1994 assessment of the "critical need for applied research" in every sector of NYSDOT.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) also recognized the role of research, development, and technology transfer (RD&T) activities in creating a "national intermodal transportation system that is economically efficient and environmentally sound" by substantially increasing funding for research, requiring expenditure of 25 percent of each state's annual SPR funds for RD&T activities.

To address NYSDOT's growing research needs and the policy objectives set by state and federal leaders, the Technical Services Division is creating an expanded Department-wide research and technology transfer program. It will provide an organizational focus for existing, but fragmented research activities within NYSDOT. It will systematically define and effectively coordinate the research and technology transfer process in accord with proposed federal requirements. It will provide the capabilities, mechanisms, expertise, and strategies necessary to create an effective, interactive, efficient RD&T process that will help realize NYSDOT's envisioned goals.

The program will manage in-house and contract research, and direct University Transportation Research Center (UTRC) programs; monitor the National Cooperative Highway Research Program (NCHRP), Transit Cooperative Research Program (TCRP), and FHWA Pooled-Funds Studies; and provide needed support and coordination for NYSDOT's Intelligent Transportation Systems (ITS) program, The National Transportation Product Evaluation Program (NTPEP), FHWA's internal and contract research programs, and the Highway Innovative Technology Evaluation Center (HITEC).

Program Objectives

1. Creation of a nucleus for strategic research planning.
2. Integration of formalized Department-wide strategic thinking.
3. Creation of a cross-functional mechanism for integration/coordination/communication within NYSDOT.
4. Efficient management of all Department-sponsored research through centralization of research management functions.
5. Maximum utilization of research funds and avoidance of unnecessary or unwise investment.
6. Maximum return on the Department's research investments.
7. Compliance with federal regulations concerning program conditions and standards.

NYSDOT
Library
50 Wolf Road, POD 34
Albany, New York 12232

8. Integration of innovative technology into Departmental program planning.

9. Provision of "window" to the outside world of research and technological breakthroughs.

10. Creation of an effective, mutually beneficial relationship with New York State universities.

Program Functions

1. Coordinates all NYSDOT-sponsored research activities.

2. Establishes a system where NYSDOT strategic needs are effectively defined and program priorities are efficiently ranked.

3. Establishes a formal interactive, cooperative process to ensure proper identification and ranking of research needs.

4. Establishes a management control system to monitor research in progress.

5. Uses all funds allocated for research activities efficiently and effectively.

6. Screens all proposed research problems to avoid duplication of effort.

7. Implements an active technology transfer program.

8. Evaluates the effectiveness of the research and technology transfer programs.

9. Maintains an effective working relationship with universities in New York State.

10. Submits to FHWA periodic performance and expenditure reports, and certifications of compliance with standards and conditions set by federal rules.

Program Management

The TR&D Bureau will manage and coordinate this expanded research and technology transfer program, providing a professional program secretariat. These efforts will be supplemented by the following four new entities:

The Research Executive Board (REB)

This Board will consist of four NYSDOT executive managers, each representing a functional area within NYSDOT. It will provide policy guidance, approve major program activities, and formulate budgets. NYSDOT's Executive Capital Program Committee (ECPC) is a possible source of REB members.

The Research and Development Council (RDC)

This Council will consist of mid-level managers from each functional area within the Main Office, a representative from each of NYSDOT's eleven regional offices, and a chair. Their function will be to ensure identification and ranking of NYSDOT strategic needs.

The Advisory Panel (AP)

This Panel will consist of representatives from FHWA, academia, and private industry who will be invited to share their input for the RD&T Program agenda.

Technical Working Groups (TWGs)

These Groups will be responsible for technical input such as developing project problem statements and scopes of services, evaluating requests for proposals (RFPs), and implementing research results.

The RD&T program will define and coordinate research activities currently dispersed throughout the Department. It will implement an active, aggressive technology transfer program, and will accomplish its mission through creation of a management process that will systematically ensure maximum return on the Department's research investments.

CONTENTS

INTRODUCTION 1

Background 1
Need and Purpose 2
Program Operational Objectives 2
Program Functions 2

ORGANIZATIONAL STRUCTURE 7

Transportation Research and Development Bureau (TR&DB) 7
Research Executive Board (REB) 7
Research and Development Council (RDC) 10
Advisory Panel (AP) 10
Technical Working Groups (TWGs) 11

THE R&D WORK PROGRAM 13

Phase I: Identification and Ranking of Research Needs 13
Phase II: Formulation of Tentative Program and Budget 15
Phase III: Development of Final Program and Approval of Budget 15
In-House Research Program 15
Contract Research Program 15
University Transportation Research Center Program (UTRC) 15
National Cooperative Highway Research Program (NCHRP) 16
Transit Cooperative Research Program (TCRP) 17
FHWA Pooled-Funds Program 17
Phase IV: Execution of the Research Program 17
Phase V: Implementation of the Technology Transfer (T2) Program 18
FHWA's Internal and Contract Research Programs (NCHRP/TCRP) 18
ITS "New York Moves" Program 19
Highway Innovative Technology Evaluation Center (HITEC) 19
AASHTO National Transportation Evaluation Program (NTPEP) 19

CONCLUSION 21

APPENDICES

A. "State Planning and Research Program Administration: Final Rule" from the Federal Register, Friday, July 22, 1994
B. Memorandum Approving the New York State RD&T Program
C. Memorandum Renaming the Transportation Research and Development Bureau
D. FHWA Requirements and NYSDOT Responsibilities in the Coordinated RD&T Program

ACRONYMS USED IN THIS DOCUMENT

AP	Advisory Panel
ECPC	Executive Capital Program Committee
FHWA	Federal Highway Administration
HITEC	Highway Innovative Technology Evaluation Center
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation Systems (formerly IVHS, for Intelligent Vehicle Highway Systems)
NCHRP	National Cooperative Highway Research Program
NTPEP	National Transportation Product Evaluation Program
NYSDOT	New York State Department of Transportation
RCG	Research Coordinating Group
RD&T	Research, Development, and Technology Transfer
RDC	Research and Development Council
REB	Research Executive Board
RFP	Request for Proposal
SCOR	AASHTO Standing Committee on Research
SPR	State Planning and Research Program
T2	Technology Transfer
T2 TEAM	Technology Transfer Team
TCRP	Transit Cooperative Research Program
TR&DB	Transportation Research and Development Bureau (formerly Engineering R&D Bureau)
TRIS	Transportation Research Information Services
TWG	Technical Working Group
UTRC	University Transportation Research Center

INTRODUCTION

The 1990s witnessed inception of a new vision for the Department, of an organization steadily advancing its role as a national transportation leader through development of innovative transportation solutions and breakthrough concepts in research and technology. Accomplishing this vision will entail initiation of strategic research activities that not only anticipate, identify, and address potential problems, but also integrate technology advances into the Department's program management, execution, and operation. Emphasis in transportation policy on integration of innovative solutions into overall strategic planning systems is becoming a major theme in the transportation community, because this is believed to be a crucial ingredient for the new transportation era established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). (The specific federal rule-making document is included here in Appendix A).

ISTEA is ending the separation among transportation modes by calling for creation of a "national intermodal transportation system that is economically efficient and environmentally sound." This recognizes the role of research, development, and technology transfer (RD&T) activities in creating such a system by substantially increasing funding for research, and requiring expenditure of fully one-quarter of each state's annual SPR funding for RD&T activities.

New York's expanded RD&T program will help realize the envisioned state and federal goals, while adapting to the new realities. It will provide an organizational focus for existing, but fragmented research activities within the Department. The program will systematically define and effectively coordinate the research and technology transfer process in accord with federal requirements.

The purpose of this document is to outline the framework of the Coordinated RD&T Program recently approved by the Department's Executive Capital Program Committee (ECPC). It defines program functions, components, goals, and objectives.

Background

ISTEA's provisions have virtually doubled the funds available for research. Federal rule-making has also considerably decentralized RD&T management functions of the Federal Highway Administration (Appendix A). It has significantly changed FHWA's role from project-by-project oversight to overall program oversight, thus allowing the states greater authority and flexibility as well as primary responsibility for managing their RD&T activities supported by FHWA's SPR funds. However, the states must meet certain program standards and conditions before grant approval, including creation of an interactive process for ranking projects, maximum utilization of SPR funds, documentation/implementation of research results, periodic evaluation of program performance, and effective program management.

In response to ISTEA and subsequent federal regulations, TR&DB was asked to expand its mission from solely the conduct of engineering research to review and coordination of all Department-sponsored research. This expansion is deemed imperative in establishing a formally structured, comprehensive, Department-wide RD&T program to manage in-house and contract research; to direct University Transportation Research Consortium (UTRC) programs; to monitor and participate in the National Cooperative Highway Research Program (NCHRP), Transit Cooperative Research Program (TCRP), and the FHWA Pooled-Funds Program; to support the ITS "New York Moves" program; and to provide coordination with National Transportation Product Evaluation Program (NTPEP), FHWA Contract Research Program, and Highway Innovative Technology Evaluation Center (HITEC).

ECPC has recently approved creation of a Department-wide RD&T program to address these growing research and technology transfer needs. Managed and coordinated by TR&DB, this program will focus on a variety of transportation research fields including infrastructure, environment, planning, policy, intermodal transportation systems, innovative technology, administration, and productivity. The program will be structured and governed according to procedures described here.

Need and Purpose

In 1994, the NYSDOT Management Services Bureau observed that "there is a critical need for applied research in DOT . . . . Every sector has expressed the need for applied research at one time or another."* The RD&T program outlined here will address this basic Department operational need, as well as broad policy objectives set by state and federal agencies. It will provide the focal point to define and coordinate research activities now dispersed throughout the Department. It will bring together the capabilities, mechanisms, expertise, and strategies necessary to create an effective, efficient, interactive RD&T process that adequately addresses all existing and anticipated needs. In December 1994, NYSDOT management approved the principles and details of the RD&T organization outlined here (Appendix B).

Program Operational Objectives

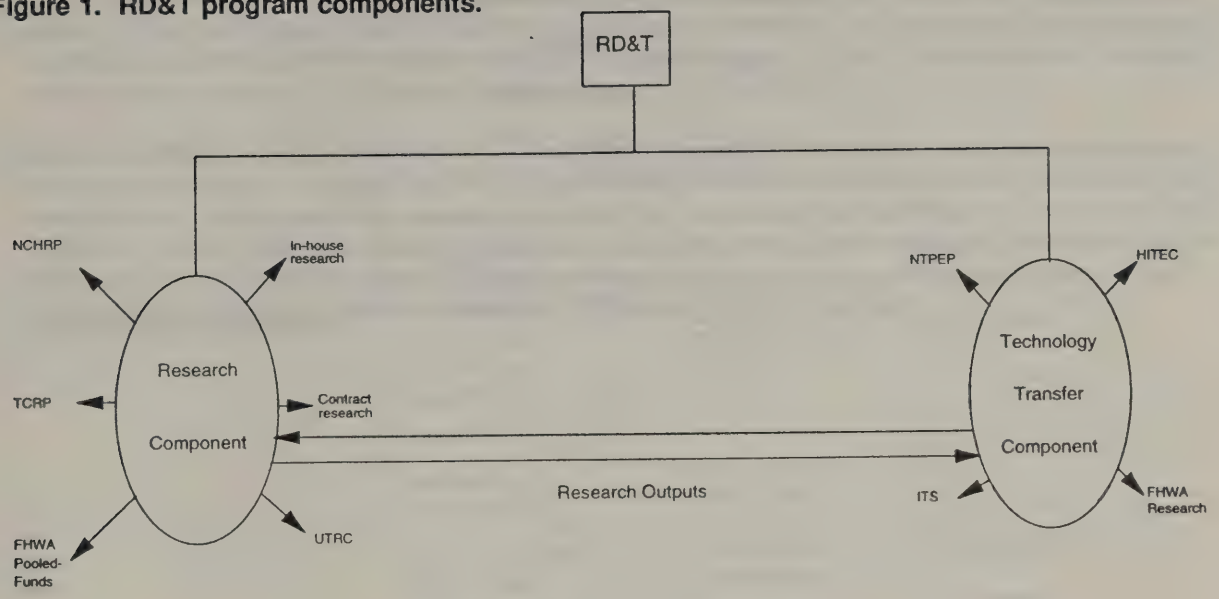
1. Creation of a nucleus for strategic research planning.
2. Integration of formalized Department-wide strategic thinking.
3. Creation of a cross-functional mechanism for integration/coordination/communication within the Department.
4. Efficient management of all Department-sponsored research through centralization of research management functions.
5. Maximum utilization of research funds.
6. Maximum return on the Department's research investments.
7. Compliance with federal regulations concerning program conditions and standards.
8. Integration of innovative technology into Department program management and execution.
9. Establishment of a "window" to the outside world of research and technological breakthroughs.
10. Creation of a effective, mutually beneficial relationship with universities throughout the state.

Program Functions

1. Coordinates all Department-sponsored research activities, including federally, cooperatively, and state funded in-house and external research activities Figure 1 shows the components of the proposed RD&T initiative, integrating all existing activities into a single annual program.

*The Impact of IVHS on the Structure of the Traffic Engineering and Safety Division. Management Systems Bureau, February 1994, p. 29.

Figure 1. RD&T program components.



2. Establishes a system where Department strategic research needs are effectively defined and program priorities are efficiently determined. Assesses compatibility with overall goals and objectives of the Department and the state. Undertakes a well balanced research program that includes a wide variety of research problems (in both hard and soft areas of research).

3. Creates a formal, interactive, cooperative process to ensure comprehensiveness and responsiveness of the research program. This will be accomplished by involving all the Department's operational elements, including top- and mid-level management. In fact, this unique program allows each Department employee to play a role in setting the RD&T program agenda. It will establish strong, mutually beneficial relationships between the Department and universities throughout the state. It will strengthen avenues of communication with FHWA and private industry.

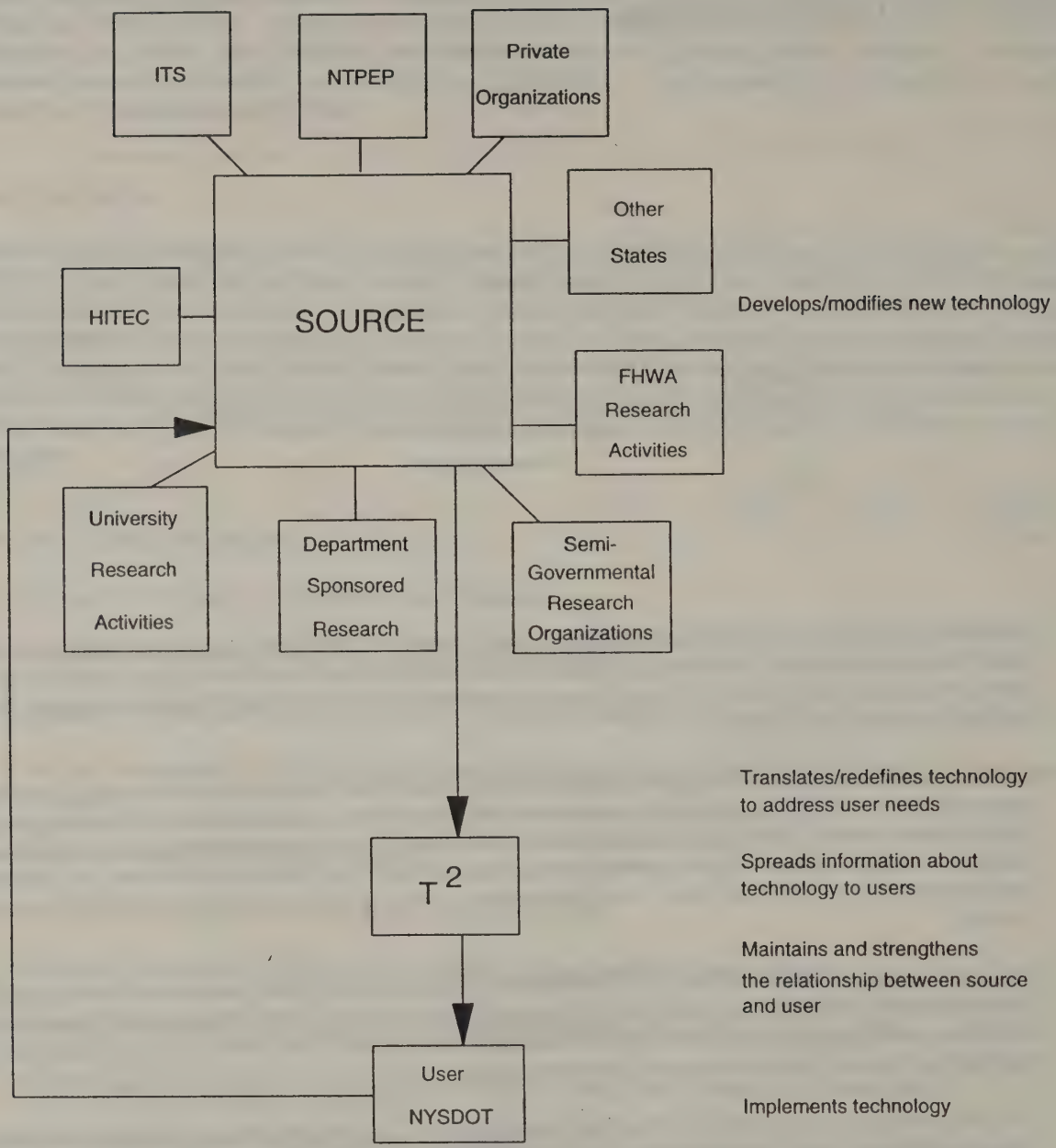
4. Monitors conduct of research through a management control system tracking program activities, schedules, accomplishments, fiscal commitments, project progress and costs, etc. Maintains communications between researchers and potential users to ensure that needs are addressed, that sound scientific methods are used, and that findings are credible and acceptable for operational use.

5. Locates, evaluates, and continuously monitors funding sources and ensures proper allocation and maximum utilization of those funds, either internally or through participation in national, regional, pooled, or cooperatively funded studies. The program will fully utilize in-house research capabilities, as well as existing outside research programs: UTRC, NCHRP, TCRP, FHWA Pooled-Funds, and USDOT's Contract Research Program.

6. Screens proposed research problems efficiently to avoid duplication of effort. Provides for final research reports that document the data collected, analyses performed, and the resulting conclusions and recommendations.

7. Ensures that the Department receives maximum benefits from its research activities, through facilitating adoption of research outputs. This will be achieved through an active technology transfer program that includes a) identifying and evaluating products emerging from research efforts sponsored by the Department, b) refining and packaging of innovative technology, and c) ensuring timely use and adoption of innovative technology through effective delivery systems, such as issuing reports, manuals, etc.; conducting technical courses, presentations, and seminars; and providing one-on-one assistance and technical consultations for appropriate personnel.

Figure 2. T2 program functions.



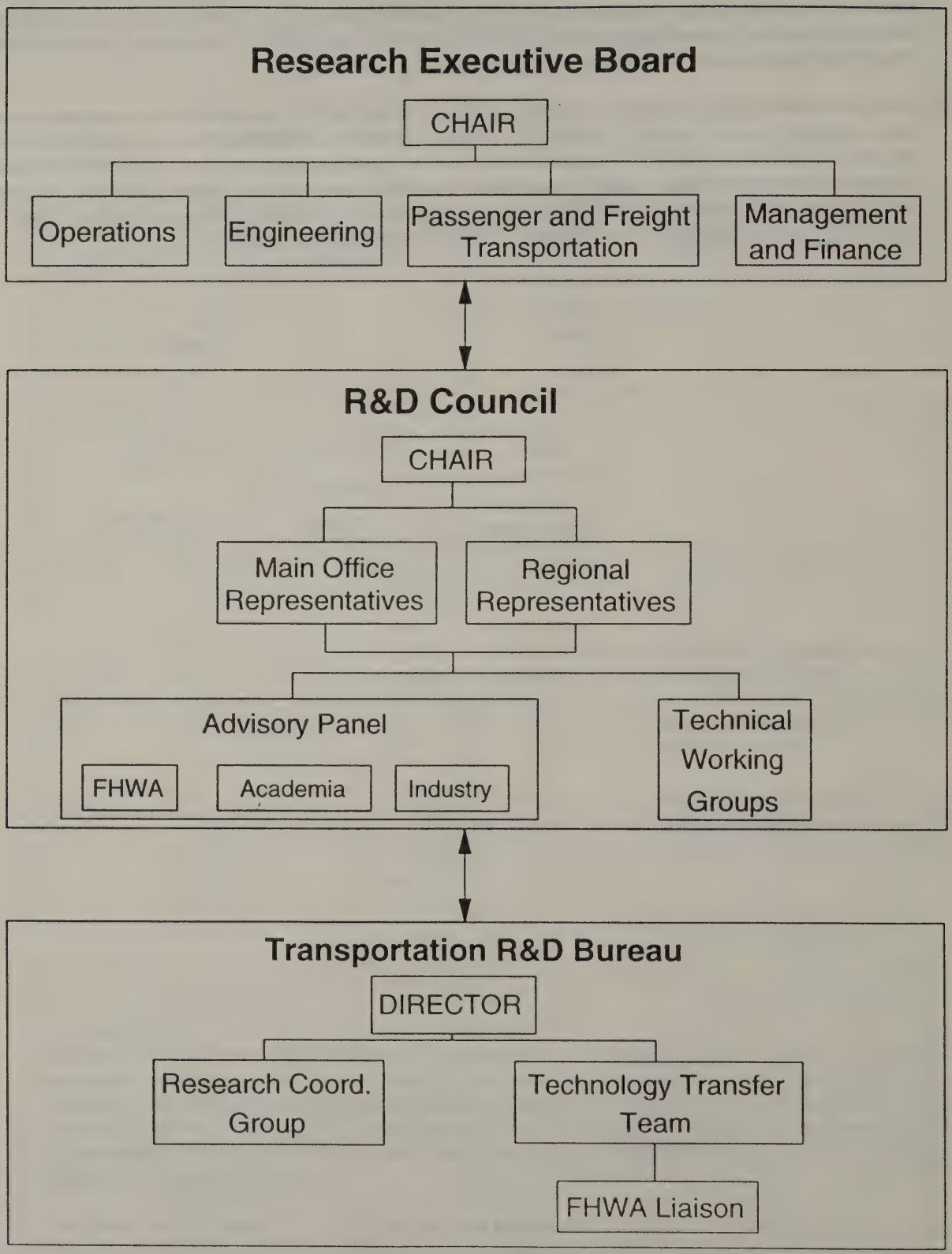
8. Analyzes and documents accomplishments, effectiveness, and efficiencies of RD&T activities. Establishes a mechanism for periodic evaluation to assess the program's effectiveness in meeting identified goals and objectives. This will be done through surveys of user perceptions, feedback from various operational levels, and a tracking system to determine which RD&T products have been adopted for operational use within the state. The purpose of this evaluation is to determine benefits and successes of the RD&T program, and to help update, revise, and improve the program.

9. Strengthens the links between NYSDOT and national governmental, non-governmental, and university-related research activities. Monitors on-going, developing, and completed research conducted by others and reports such

information to NYSDOT employees through regular newsletters geared to their needs. .The program thus will provide a "window" through which NYSDOT will be informed regularly of the latest technologies, procedures, and policies endorsed by the transportation community around the nation. Figure 2 shows the role of technology transfer activities as a new link between sources and users of technology.

10. Submits to FHWA periodic performance and expenditure reports including comparison of actual performance with established goals. Specific measures of performance will be established for each operational goal. Quantitative as well as qualitative program benefits will be documented and analyzed. Reports will include progress in meeting schedules, status of expenditures (including comparison of budgeted amounts and actual costs incurred), cost overruns or underruns, approved work program revisions, and supporting data. This information will be made available as advised by FHWA for peer-review purposes.

Figure 3. RD&T organizational structure.



ORGANIZATIONAL STRUCTURE

Figure 3 shows the organizational structure of players involved in the RD&T program, and Table 1 gives detailed descriptions of each player's role in the RD&T process.

Transportation Research and Development Bureau (TR&DB)

This Bureau will manage and coordinate the expanded research program, including all Department-sponsored research. It is deemed the most suitable organization to coordinate this program because of its past and continuing, key role in the conduct and implementation of numerous engineering research studies. Organized in 1958 as the "Bureau of Physical Research" of the former New York State Department of Public Works, it was renamed the "Engineering Research and Development Bureau" when the agency became the New York State Department of Transportation, and finally became the Transportation Research and Development Bureau in 1994 with inception of the RD&T program (Appendix C).

TR&DB is a formally structured research organization having all essential ingredients to launch a successful coordinated Department-wide research program. It has a) a staff of 40+ skilled employees already assigned full-time responsibility for TR&D activities, b) a technical library with access to varied library resources, and to computer-based information services (TRIS, RAC, DIALOG, etc.), c) access to laboratory/testing facilities throughout the Department, d) access to computer facilities and programming staff, e) professional technical editors/writers for research publications, f) an implementation/technology transfer staff, g) capability to perform and evaluate valid statistical analyses, and h) maintained regular contacts and active cooperative arrangements with national and state research organizations, industry, and universities. Figure 4 is a TR&DB organizational chart.

In light of these capabilities and documented accomplishments in managing existing research programs, TR&DB is considered the best candidate to launch this important initiative. The expanded research program will round out the Bureau's continuing responsibilities in conducting and implementing research.

TR&DB will provide professional secretariat services for the program. Two units will be established within the Bureau to manage the RD&T program -- **the Research Coordinating Group (RCG)** and **the Technology Transfer Team (T2 Team)**. Staff will be comprised of the Bureau's existing T2 specialists. The units will be supervised by the TR&DB Director. Liaison representation from FHWA will assist the T2 Team, and TR&DB will provide liaison for the following four additional proposed entities.

Research Executive Board (REB)

This will consist of four NYSDOT executive managers, each representing a functional area within the Department's Main Office: Operations, Engineering, Passenger and Freight Transportation, and Management and Finance. Each member will be appointed by the head of the functional area. REB will provide policy guidance by identifying research emphasis areas, approving major program activities, and formulating budget and expenditure plans.

The Executive Capital Program Committee (ECPC) is a possible source of REB membership. ECPC members include the First Deputy Commissioner for Policy and Resources and the Assistant Commissioners for Operations, Engineering, Passenger and Freight Transportation, and Management and Finance. The Commissioner is the ECPC

Table 1. Player roles in the RD&T process.

1. TRANSPORTATION RESEARCH & DEVELOPMENT BUREAU

FUNCTIONAL AREA	DUTIES
A. DIRECTOR	
Directs program functions	Administers the RD&T program; oversees all program activities; ensures that all program procedures and administration are carried out effectively; ensures the technical quality of final products; coordinates program activities; appoints members of the Advisory Panel; acts as principal staff-level liaison among players involved in the RD&T process.
B. RESEARCH COORDINATING GROUP	
Acts as day-to-day interface among program participants	Maintains regular contacts with players involved in the process; provides liaison between REB, RDC, AP, and TWGs; records and reports all business presented and acted upon by RDC and REB; reports to REB and RDC any recommendations for change within the program or on other matters requiring their attention, and arranges REB, RDC, and AP meetings.
Coordinates program functions	Coordinates various segments of the R&DT program; integrates functions of ECPC, RDC, AP, and TWGs; and develops a systematic mechanism through which an effective R&DT process is executed.
Solicits research needs	Solicits research suggestions from NYSDOT personnel and surveys strategic issues facing NYSDOT from RDC, AP, and REB.
Screens research suggestions	Conducts preliminary screening of research problems and classifies candidate problems.
Develops problem statements	In coordination with TWGs, develops first- and second-stage problem statements, and conducts literature reviews.
Prepares Request For Proposals	Develops RFPs for selected projects; coordinates with Contract Management Bureau and designated proposal selection committees to ensure an efficient proposal evaluation process.
Provides surveillance of research in progress	Provides administrative and technical surveillance, guidance, and counsel for research in progress.
Provides acceptance reviews of project reports	Issues a semiannual progress report, monitors progress schedule over duration of the research, and evaluates final reports.
Develops analytical tools	Performs analysis to assess program effectiveness in meeting identified goals and objectives.
C. TECHNOLOGY TRANSFER TEAM	
Implements T^2 tasks.	Implements tasks of the technology transfer component pertaining to ITS, HITEC, NTPEP, and FHWA internal and contract research programs.
Disseminates research results	Evaluates products emerging from NYSDOT-sponsored research, refines and packages research outputs, edits and publishes reports emanating from the program documenting research results; and distributes reports to affected NYSDOT program areas.
Ensures timely, widespread use of technology	In coordination with TWGs and FHWA representatives, conducts an aggressive technology transfer program to promote application of research results. Technical presentations, training courses, and one-on-one consultations are examples of delivery systems used to facilitate application of research output.
Reports on research elsewhere	Monitors research activities conducted elsewhere, publishes quarterly newsletters documenting internal and external research activities, particularly those sponsored by state DOTs.
Prepares annual certification	Submits annual certification to FHWA demonstrating that the program has followed the conditions for grant approval specified in the rulemaking, and prepares performance reports for FHWA as necessary.
Evaluates overall technology transfer program	Analyzes, evaluates, and obtains feedback from users on overall program performance and reports on effectiveness in meeting goals.

2. RESEARCH EXECUTIVE BOARD

FUNCTIONAL AREA	DUTIES
A. CHAIR	
Oversees Board's functions	Presides over REB meetings, directs the REB's activities, and calls meetings as necessary to update members on procedural or technical matters.
B. MEMBERS	
Provide policy guidance	Provides broad policy guidelines through issuing annual memoranda of understanding outlining research emphasis areas, which serves as a general criterion for project selection. These areas reflect REB's perception of strategic issues facing NYSDOT.
Formulate budget	Develops an annual revenue and expenditure budget for the RD&T program, and approves expenditure plan for each program area.
Approve RD&T program	Ensures that selected projects are consistent with objectives of the NYSDOT operational plan.
Evaluate program performance	Serves as oversight entity ensuring implementation of overall program goals; reviews and comments on effectiveness of the program, and recommends changes/modifications as necessary.

3. RESEARCH & DEVELOPMENT COUNCIL

FUNCTIONAL AREA	DUTIES
A. CHAIR	
Oversees Council's functions	Calls and presides over RDC meetings, as necessary, to update members on procedural and technical matters, and submits annual proposed consolidated program agenda to REB on behalf of the RDC.
B. MEMBERS	
Identifies strategic needs	Through collective and individual brainstorming, identifies NYSDOT's strategic research needs in accordance with REB.
Formulates program contents	Ranks high-priority projects and recommends a consolidated program agenda to REB.
Assigns candidate projects to programs	Upon REB's approval of each program area preliminary agenda, assigns projects to each program.
Appoints TWGs	Appoints TWG members for each emphasis area.

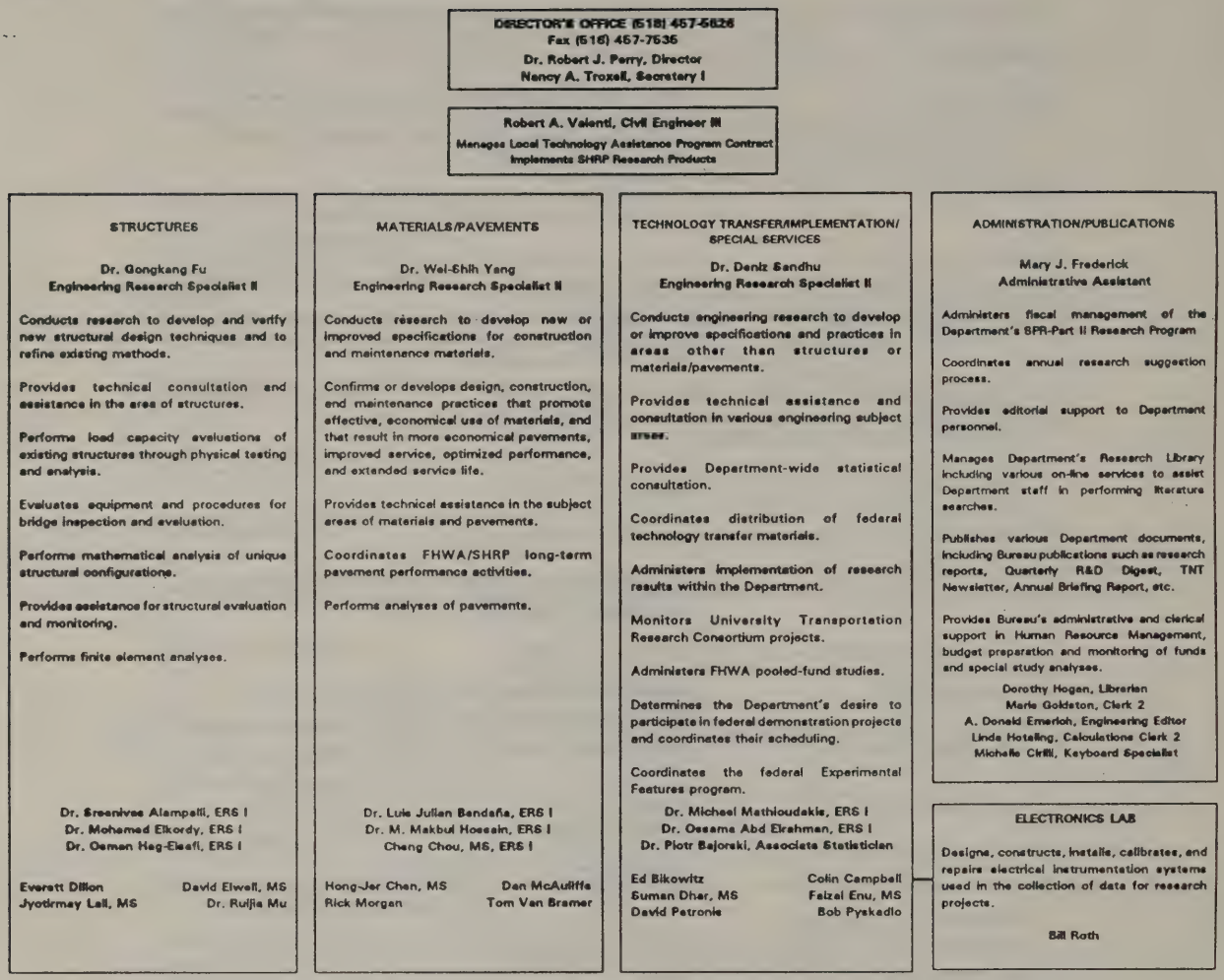
4. RESEARCH ADVISORY PANEL

FUNCTIONAL AREA	DUTIES
Identifies strategic needs	Identifies NYSDOT's strategic needs, responds to surveys conducted by TR&DB staff, and participates in RDC brainstorming sessions.
Advises on research activities	Supports and reinforces RDC functions and acts as advisory expert panel on as-needed basis. Members serve as non-voting observers to ensure that program formulation is consistent with broad policy direction.

5. TECHNICAL WORKING GROUPS

FUNCTIONAL AREA	DUTIES
Prepare technical documents	In coordination with TR&DB, develops technical documents (first- and second-stage problem statements and/or RFPs for selected projects)
Evaluate proposals	Evaluates project proposals and selects contractors from agencies submitting proposals.
Serve as project managers	A manager designated for each project advises on project specifics, describes NYSDOT's objectives, clarifies any ambiguities, reviews progress reports, and evaluates final reports. Serves as primary contact person within the Department.
Participate in technology transfer	Participates on as-needed basis in T² activities, particularly conducting technical presentations and training courses to facilitate application of research outputs

Figure 4. TR&DB organization.



Chair. Operating under REB guidance, the following three proposed groups will formulate and execute the program: the R&D Council, the Advisory Panel, and the Technical Working Groups.

Research and Development Council (RDC)

This will consist of four mid-level managers from each of the following functional areas within the Main Office: Operations, Engineering, Passenger and Freight Transportation, and Management and Finance, and a representative from each of NYSDOT's eleven regional offices. They will operate under guidance of the TR&DB Director as permanent chair, representing the Office of Engineering. RDC will have 17 members, their seats open for nomination by the REB every three years. Emphasis will be on maintaining a well-balanced RDC with members truly voicing the state's grassroots needs, fostering greater coordination between the NYSDOT regions and Main Office. REB's function will be identify and rank NYSDOT's strategic needs and formulate the annual RD&T program.

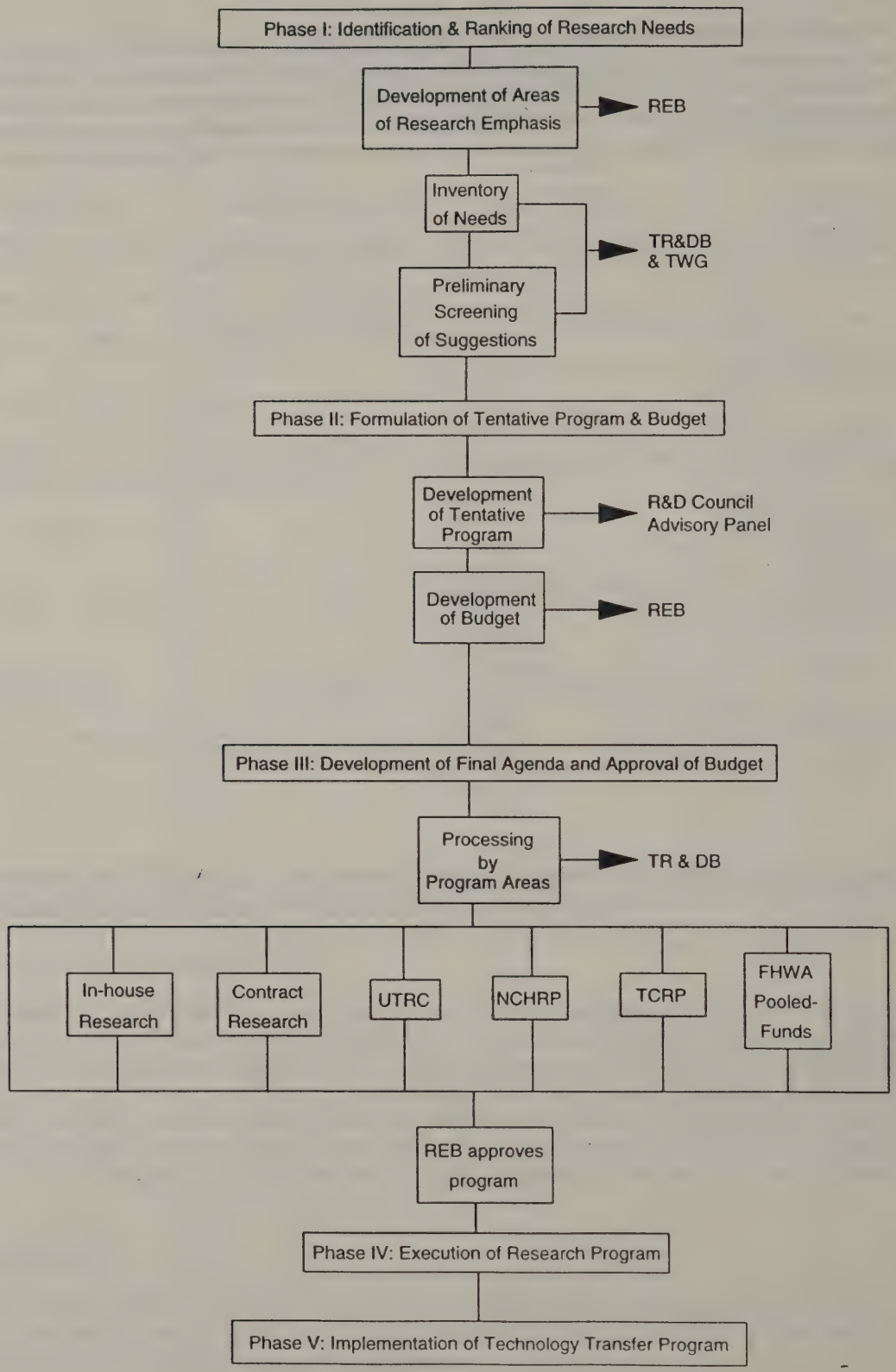
Advisory Panel (AP)

This will consist of representatives from FHWA, academia, and industry serving as non-voting, ex-officio RDC members. They will be invited annually by TR&DB to share their input into the RD&T program agenda, to advise on program content, and to evaluate program performance.

Technical Working Groups (TWGs)

RDC will appoint members of these groups, who will provide technical input such as development of problem statements and scopes-of-services for proposed projects. Each TWG will be responsible for one of the emphasis areas identified by REB. They will be nominated based on expertise directly relevant to the proposed research. Members will be expected to serve throughout the life of the study, and to participate in implementation of results as advised by TR&DB's T2 Team. Numbers of members in each TWG will vary, depending on need.

Figure 5. Tentative research program cycle.



THE RD&T WORK PROGRAM

This section describes the programming process and program operational procedures. Figure 5 shows the annual RD&T program cycle, Figure 6 the schedule of program activities, and Figure 7 maps the progress of research ideas from conception through delivery of final products to benefit the Department and enhance its operations.

Phase I: Identification and Ranking of Research Needs

1. Develop Areas of Research Emphasis

   REB develops and assigns research emphasis areas (i.e., high-priority subjects). These subjects are primary criteria for project selection.

2. Inventory Research Needs

   TR&DB staff solicits research suggestions from NYSDOT employees, industry, and academia, and surveys strategic research needs from AP and RDC. This involves individual and collective brainstorming -- the Panel and Council complete survey forms and meet to discuss further research needs.

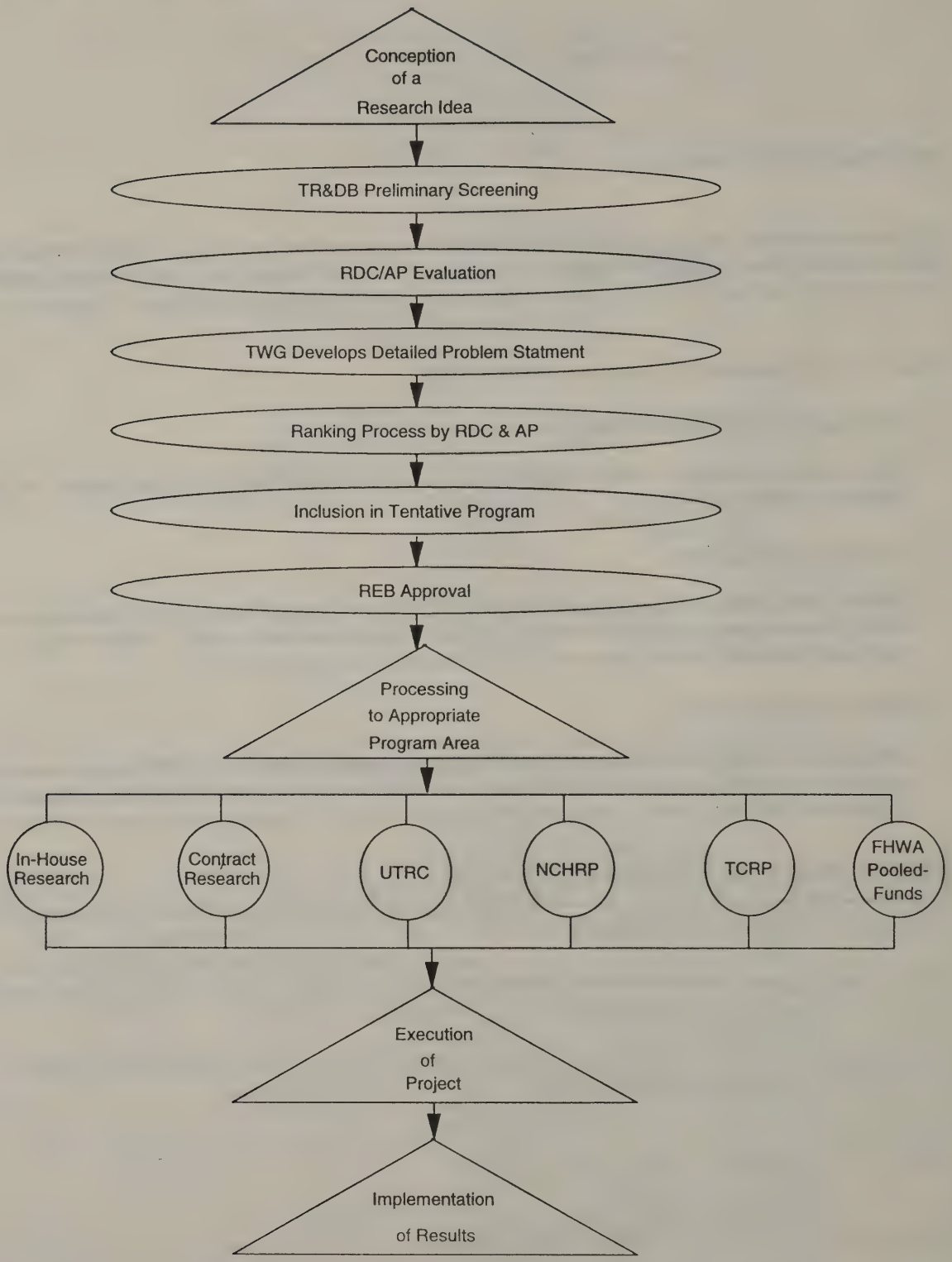
3. Screen Research Suggestions

   TWG members are appointed. In coordination with these designated TWGs, TR&DB initially screens research suggestions (including literature reviews to rule out repetition and/or duplication), classifies candidate problems, and develops first-stage problem statements for potential projects. Research suggestions are examined to

Figure 6. RD&T annual program schedule.

PHASE	ACTIVITY IDENTIFICATION	SCHEDULE Jan. Feb. Mar. Apr.May. Jun. Jul. Aug. Sept. Oct. Nov. Dec.
I	Identification and ranking of research needs.	IIIIIIIIIIIIIIIII
II	Formulation of tentative program and budget.	IIIIIIIIIIIIIIII
III	Development of final program agenda and approval of expenditure plans.	IIIIIIIIIIIIII
IV	Program implementation.	IIIIIIIIIIIIIIIIII
V	Technology transfer.	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

Figure 7. Progressing a research project.



determine a) if the problem is important to the Department (it will be evaluated against the emphasis areas established by REB), b) if it is researchable, c) if it is timely, d) whether successful completion will produce significant results, e) whether success is probable, and f) if the study can be designed to avoid undesirable duplication of other completed or ongoing research.

Phase II: Formulation of Tentative Program and Budget

1. Develop Tentative Research Program Content

   Candidate research suggestions, as well as descriptions of proposed NCHRP, TCRP, and FHWA pool-fund studies, are submitted to RDC for consideration in formulating the annual program. Ballots are returned to TR&DB, which compiles ratings and ranks the problems. Balloting is then summarized and sent to RDC, who meet to formulate the program. RDC members vote to select priority research projects that best address NYSDOT needs, and recommend a consolidated program agenda to REB. TR&DB reports the RDC meeting outcome to REB.

2. Formulate Spending Plan and Approve Tentative Program

   REB formulates overall annual spending plan and approves tentative agenda for each program area -- i.e., distributes projects to appropriate research program areas.

Phase III: Development of Final Program Agenda and Approval of Budget

Projects assigned to one of these six program areas are processed as shown in Figure 8.

In-House Research Program

1. TR&DB staff develop scope-of-service for each project and outline a detailed execution schedule.

2. TR&DB submits final program to REB for approval.

3. REB approves program and assigns projects to appropriate personnel within TR&DB for implementation.

Contract Research Program

1. RFPs for approved projects are developed by the appropriate TWG and distributed. (Bids are expected to come predominantly from the consortium of universities and associated partners recently contracted by NYSDOT. This will result in more efficient program operation by eliminating delays that result from conducting work through a series of separate contracts.)

2. Proposals are processed and evaluated, and the best-qualified proposals are selected.

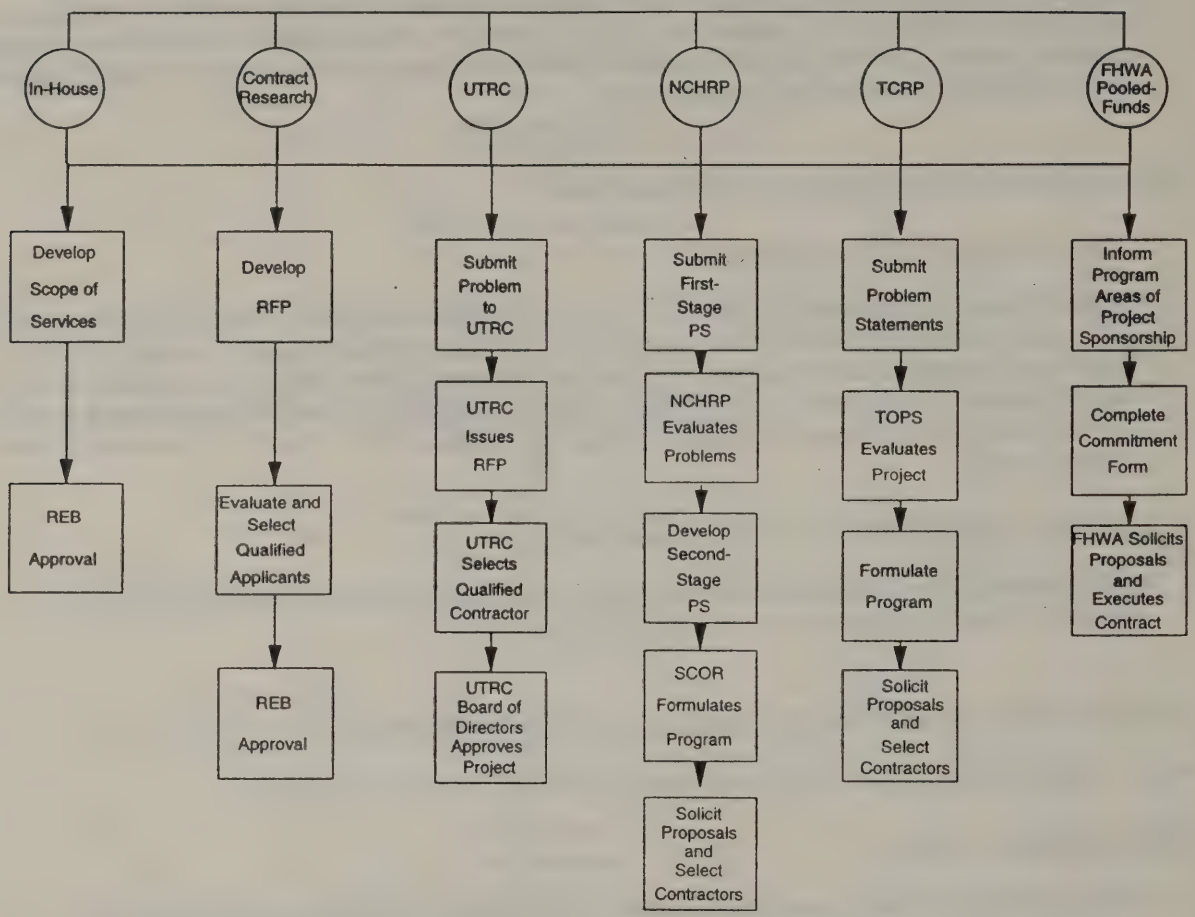
3. Contracts are executed.

University Transportation Research Center Program (UTRC)

1. Problem statements are submitted to UTRC.

2. UTRC solicits proposals from participating universities.

Figure 8. Processing a project through program areas.



3. UTRC's Project Advisory Committee evaluates proposals to select those best addressing NYSDOT's needs.

4. Selected projects are submitted to UTRC's Board of Directors for final approval.

5. Contracts are executed.

National Cooperative Highway Research Program (NCHRP)

1. First-stage problem statements are submitted to the NCHRP staff.

2. NCHRP staff evaluates the problems.

3. Evaluations are forwarded to TR&DB staff.

4. TR&DB in coordination with TWGs develops detailed (second-stage) problem statements for projects surviving NCHRP's early screening process, and submits them to NCHRP.

5. NCHRP compiles and forwards all submitted second-stage problem statements to TR&DB, which disseminates the statements and ballots to the appropriate TWGs. They rate each statement and TR&DB returns them to NCHRP.

6. NCHRP staff compiles submittal to the AASHTO Standing Committee on Research (SCOR), who rate and formulate their program.

7. NCHRP's Executive Committee approve program.

8. Project Panels are designated by NCHRP.

9. Proposals are solicited and research agencies are selected. FHWA and AASHTO approve proposals and contractors.

10. Contracts are executed.

Transit Cooperative Research Program (TCRP)

1. Designated problems are submitted to TCRP.

2. TCRP staff evaluates problems and selects candidate problems.

3. Screening workshops are conducted to evaluate candidate problem statements, and recommended problems are submitted to TCRP Oversight and Project Selection Committee (TOPS).

4. TOPS ranks problems and formulates annual program.

5. TCRP reviews and approves program.

6. Designated Project Panels define scope of study for each project (develop RFPs).

7. Proposals are solicited and contractors selected from agencies submitting proposals.

8. Program is executed.

FHWA Pooled-Funds Program

1. TR&DB informs NYSDOT's affected program areas of RDC's recommendations and REB's approval to sponsor project(s) under national and/or regional pooled-funds programs.

2. Appropriate TWG completes a study-commitment form for each proposed or ongoing project.

3. Responsible agencies designate a state contact person for each study.

4. FHWA solicits proposals and executes contracts.

Phase IV: Execution of the Research Program

1. TR&DB issues a briefing report on program content and funding allocations for each program area.

2. For each project, a project manager is appointed from the assigned TWG.

3. TR&DB and project managers closely monitor progress reports and progress schedules for all research in progress. Final reports are evaluated by TWGs and TR&DB staff.

Table 2. Phase V Implementation of technology transfer program.

In-House/Contract/UTRC	FHWA/NCHRP/TCRP	ITS	HITEC	NTPEP
1. Evaluate products from NYSDOT-sponsored research. 2. Refine and package technology. 3. Deliver technology. 4. Assist in implementation	1. Monitor and report ongoing and completed studies. 2. Evaluate results and assess applicability. 3. Deliver research outputs to affected agencies. 4. Promote application of outputs.	1. Assist in initiating research and implementing projects. 2. Monitor and report ongoing and completed studies in New York and elsewhere, and disseminate results through ITS NEWS newsletter. 3. Assist in training NYSDOT personnel.	1. Monitor program activities. 2. Assess applicability in NYS. 3. Promote application of technology.	1. Develop annual list of candidate projects. 2. Serve on Oversight Committee and Project Panels. 3. Conduct/assist in product testing. 4. Evaluate results and need for revision/modification. 5. Disseminate and promote results/applications.

Phase V: Implementation of the Technology Transfer Program

Table 2 summarizes T2 tasks. This component is a year-round activity, including dissemination of NYSDOT-sponsored research outputs, primarily carried out by TWG members under direction of TR&DB staff. The T2 component also includes providing support and coordination for four program elements:

FHWA's Internal and Contract Research Programs/NCHRP/TCRP

TR&DB's T2 Team will undertake the following tasks:

1. Closely monitor and report on ongoing and completed FHWA/NCHRP/TCRP projects.
2. Evaluate results and assess their applicability and relevance to New York State.
3. Package research results and deliver to affected agencies.
4. Promote application of results, in coordination with FHWA liaison representative(s).

ITS "New York Moves" Program

In a study dated February 1994, investigating impact of intelligent transportation systems (ITS) on Traffic Engineering and Safety Division operations, the Management Systems Bureau strongly recommended TR&DB involvement in NYSDOT's ITS program. They stated that there is "a critical need for applied research for ITS, both to manage the workload of the TE&SD staff and to protect the interests of the Department." They recommended that since "the knowledge, skills and abilities to perform applied research . . . exist in the Engineering Research and Development Bureau," it should provide ITS research services through its existing programs (in-house and contract studies and UTRC). Accordingly, the proposed RD&T program has the following objectives pertaining to the Department's ITS program:

1. Facilitate initiation of needed applied research that tests new ITS products (hardware and software components) and identify the most cost-effective and efficient product(s).

2. Facilitate initiation of quality control and evaluation studies for the ITS program. Evaluation studies should assess functional, economic, social and environmental effectiveness of ITS program elements.

3. Report performance of ongoing and completed ITS projects, and assess applicability to other areas of the state.

4. Monitor and report on ITS programs elsewhere and on FHWA's IDEA research program. TR&DB has begun its new role in support the "New York Moves" program by publishing the ITS NEWS newsletter to promote awareness of New York's ITS activities within the technical community.

5. Assist in training programs to educate NYSDOT personnel involved in ITS implementation.

Coordination between the "New York Moves" program and the RD&T program rests on the belief that investments in costly new technology should result from solid research and analysis. Additionally, policy must take into account not only cutting-edge technology, but smaller-scale improvements that may be sufficient in some situations.

Highway Innovative Technology Evaluation Center (HITEC)

TR&DB's T2 Team will 1) closely monitor HITEC's activities, 2) evaluate and assess applicability of resulting technology to New York State's environment, 3) promote application of relevant technology, and 4) advise staff of opportunities to serve on expert panels. NYSDOT involvement in this work is imperative to keep pace with rapid changes and new technologies having potential to increase NYSDOT's productivity.

AASHTO National Transportation Evaluation Program (NTPEP)

TR&DB's staff in coordination with appropriate program units within NYSDOT will participate in this newly developed program, which will test and evaluate existing products, materials, and devices used by other states. As an AASHTO member, NYSDOT has agreed to commit professional and physical resources to support NTPEP as follows:

1. Submits to the NTPEP Coordinator an annual list of candidate test projects, including expected project scope and a statement of expected benefits and estimated costs.

2. Appoints up to three NYSDOT representatives to serve on the NTPEP Oversight Committee to administer the program. These representatives have a single vote on issues considered.

3. Appoints NYSDOT representatives to serve on NTPEP's Project Panels, responsible for developing work plans and preparing final reports.

4. Conducts/assists (as lead or support state) in testing products, materials, or types of devices as recommended by the Oversight Committee.

5. Evaluates test results and assesses suitability for use in New York and need for specifications revision to suit New York's environment.

6. Disseminates test results and promotes application of test outputs.

CONCLUSION

The 1990s mark the beginning of a new era for transportation agencies -- the ways that issues have been viewed in the past are being challenged and changed. Old techniques of building infrastructure, concentrating on basic needs, and satisfying regulatory requirements are no longer adequate in addressing the future of New York's transportation system. NYSDOT's effectiveness in meeting new goals will depend on ability to adapt to new realities. Forward-looking strategies must emphasize use of innovative ideas and advancing technologies, developed through an effective, comprehensive, Department-wide RD&T program.

APPENDIX A

STATE PLANNING AND RESEARCH PROGRAM ADMINISTRATION; FINAL RULE
Federal Register/Vol. 59, No. 140/Friday, July 22, 1994/Rules and Regulations, pp. 37548-63
Part III, Department of Transportation, Federal Highway Administration
23 CFR Parts 420 and 511, 1994

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Parts 420 and 511

[FHWA Docket No. 93-18]

RIN 2125-AD21

State Planning and Research Program Administration

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Final rule.

SUMMARY: With the restructuring of the Federal-aid highway program due to enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 (Pub. L. 102-240, 105 Stat. 1914), regulations for the administration and management of activities undertaken with FHWA planning and research funds are updated to reflect the revised sources of, and activities eligible for, such funds. In addition, the ISTEA allows the States more flexibility in managing and directing federally funded research, development, and technology transfer (RD&T) activities. This final rule includes the ISTEA revisions and grants States this greater responsibility and flexibility for the management and oversight of their RD&T initiatives funded with FHWA planning and research funds.

EFFECTIVE DATE: This rule is effective on August 22, 1994.

FOR FURTHER INFORMATION CONTACT: Mr. Tony Solury (202-366-5003), Office of Environment and Planning, Federal Highway Administration, 400 Seventh Street, SW., Washington, D.C. 20590, for 23 CFR part 420, subpart A; Mr. Charles W. Niessner (703-285-2100), Office of Research and Development, Federal Highway Administration, Turner-Fairbank Highway Research Center, 6300 Georgetown Pike, McLean, VA 22101-2296, for 23 CFR part 420, subpart B; or Mr. Wilbert Baccus (202-366-0780), Office of the Chief Counsel, Federal Highway Administration, 400 Seventh Street, SW., Washington, D.C. 20590. Office hours are from 7:45 a.m. to 4:15 p.m., e.t., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION: On December 21, 1993, a notice of proposed rulemaking (NPRM) was published by the FHWA in the Federal Register (58 FR 67510) to obtain comments from interested persons on proposed revisions to regulations for program approval and authorization; conduct; and reporting of planning, research, development, and technology transfer activities undertaken by States and their subrecipients, including metropolitan planning organizations (MPOs), with FHWA planning and research funds. The proposed revisions were necessary to reflect changes to Title 23, United States Code, Highways, that resulted from enactment of the ISTEA. In addition, the FHWA proposed that States establish a process for management of RD&T activities undertaken with FHWA planning and research funds that would enable States to exercise greater authority over such activities.

With respect to administration of FHWA planning and research funded RD&T activities, the final rule reflects the FHWA's belief that its stewardship role should be one of concentrating more on the policies and procedures by which States implement such activities than on project-specific approvals and oversight. This philosophy parallels the administrative oversight procedures adopted for FHWA planning and research funded transportation planning activities in earlier revisions to 23 CFR part 420, subpart A in 1985 and 1990.

The ISTEA instituted a number of substantive changes pertinent to transportation planning and RD&T programs. In addition to retitling it from Highway Planning and Research to State Planning and Research (SPR), the ISTEA: (1) increased the set-aside of funds apportioned to States for SPR activities from 1.5 percent to 2 percent; (2) included planning and RD&T as eligible activities under the National Highway System (NHS) program and Surface Transportation Program (STP); (3) permitted the use of certain funds made available under title 23, U.S.C., for intermodal transportation planning and RD&T; and (4) required the expenditure of 25 percent of a State's annual SPR funds for RD&T activities, unless the State certifies that it will use more than 75 percent for planning and the Secretary of Transportation (the Secretary) accepts the certification. These legislative provisions are reflected in this rule.

Thirty-one sets of comments were submitted to the docket in response to the NPRM; 28 from State transportation departments/agencies, 1 from a regional planning agency, 1 from a professional association, and 1 from a Federal agency. The overwhelming majority of comments were in support of the proposed revisions and the increased flexibility for State management of RD&T activities. However, there were some concerns regarding some of the specific revisions and the short deadline for compliance. Many of these concerns were due to misunderstandings about existing requirements and not the proposed revisions. A summary of the comments, their disposition, and the changes made to the rule follow.

Subpart A—Administration of FHWA Planning and Research Funds

General Comments and Responses

Comment: One State, in which most research is conducted for the State by higher education institutions, stated that the proposed regulation does not pertain to universities as subrecipients and recommended citing Office of Management and Budget (OMB) Circular A-110, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations," November, 19, 1993, for universities as subrecipients.

Response: While the State is the recipient of FHWA planning and research funds, Part 420 also applies to subawards to all categories of subrecipients, including institutions of higher education. In accordance with standard OMB requirements, subawards are to be administered in accordance with the procedures in the OMB Circular and corresponding agency implementing regulations that apply to the type of agency receiving the subaward, whether or not specifically stated in the regulation. To clarify what applies to administration of subawards to institutions of higher education, a new paragraph (o) has been added to § 420.121 as discussed under the section-by-section analysis.

Comment: One commenter suggested that the term "State highway agency" be changed to "State transportation agency" to maintain consistent nomenclature and reflect reality.

Response: Since most of the State agencies to which Federal-aid highway program funds are apportioned are no longer single purpose highway agencies, the FHWA agrees that use of the term "State transportation agency" is more appropriate and has made this change. However, 23 U.S.C. 302 requires that a State desiring to avail itself of the provisions of title 23, U.S.C., have a suitably equipped and organized State *highway* department and has been interpreted by the FHWA to restrict reimbursement of a State *highway* department's indirect costs. Therefore, a definition of State transportation agency (STA) has been added to § 420.103, as discussed below under the section-by-section analysis, to distinguish a State *highway* department from other State transportation agencies in order to determine whether the agency's indirect costs are allowable under 23 U.S.C. 302.

Comment: One State commented that it is using a significant portion of its SPR funds for training, "since the ISTEA language which was supposed to have covered training was inadvertently left out of that Legislation."

Response: The ISTEA in fact continued the funding provisions (23 U.S.C. 321) for training of State personnel although at a reduced level of funding. With the exception of a specific type of training cited in 23 U.S.C. 307(c), FHWA planning and research funds may only be used for transportation planning or RD&T related training if the cost of the training is necessary, reasonable, and it benefits the purposes of the grant or subgrant. General training of employees who are not working on grant funded activities is not an allowable cost. This is consistent with OMB cost principles which are applicable to FHWA planning and research fund grants and subgrants.

Comment: One State questioned the estimate of 2,100 burden hours, shown under the heading Paperwork Reduction Act in the NPRM, for the 50 States to comply with the regulation and stated that it will take much more time to develop a procedures manual; procedures for tracking activities, schedules, accomplishment, and fiscal commitments; and procedures to determine the effectiveness of the implementation process, and the utilizations of the RD&T output. The commenter indicated that the State has many of the elements in place, but did not know if the FHWA Division office would accept them or require revisions in content or format.

Response: The estimate of 2,100 burden-hours (40 hours per respondent) is for the one-time preparation by each State, the District of Columbia, and the Commonwealth of Puerto Rico of the *new certification* required by subpart B of the regulation. Many of the other activities cited by the commenter are either required already (e.g., progress reports) and are covered by the cited existing OMB clearances or are standard management practices that the State should already have in place. An updated burden estimate has been prepared. It is estimated that the average one-time burden for preparation of RD&T management process documentation and certification statements is 480 burden-hours (12 weeks x 40 hours per week) per State.

Section-by-Section Analysis

The authority citation has been amended from the NPRM to include 23 U.S.C. 303(g) which allows the use of NHS, STP, and highway bridge replacement and rehabilitation (HBRR) funds for development and establishment of the management and monitoring systems required under 23 U.S.C. 303. In addition, section 149(b) has been deleted since this regulation does not apply to funds made available under this section of title 23, U.S.C.

Section 420.101 Purpose

This section states the purpose of this regulation. It indicates that the provisions of this part apply to subrecipients of States, including MPOs. Language has been added to indicate that it also applies to activities undertaken with NHS, STP, and Highway Bridge Replacement and Rehabilitation Program (HBRRP) funds for development, establishment, and implementation of the management and monitoring systems required by 23 U.S.C. 303 and 23 CFR part 500. Use of NHS and STP funds for such purposes was included in the NPRM definition of FHWA planning and research funds; the use of HBRRP funds is being added to the definition as discussed below. A reference to the additional requirements for RD&T programs and studies in subpart B of this part is included.

Section 420.103 Definitions

This section includes the terms defined in 23 U.S.C. 101(a) and contains additional definitions for terms used in this part.

The term "FHWA planning and research funds" includes SPR funds, metropolitan planning (PL) funds, and the optional use of NHS, STP, and Minimum Allocation (MA) funds for planning and RD&T purposes. It also includes the use of NHS, STP, and HBRRP funds for development, establishment, and implementation of the management and monitoring systems required by 23 U.S.C. 303. The definition has been amended from the NPRM to include funds apportioned under 23 U.S.C. 144 for the HBRRP when such funds are used for development, establishment, and implementation of the bridge management system required by 23 U.S.C. 303. This category was inadvertently not included in the NPRM.

Although this rulemaking does not change the definition of grant, one commenter believed that new readers may not be familiar with the difference between a contract and a grant and, therefore, suggested that a definition of grant be included to reduce confusion.

The FHWA agrees and has added definitions of "grant agreement" and "procurement contract." These mechanisms for agencies to make awards to recipients are adaptations of definitions in Chapter 63, Using Procurement Contracts and Grant and Cooperative Agreements, of title 31, CFR.

A "grant agreement" is defined as a legal instrument between an awarding agency and recipient where the principal purpose is to provide funds to the recipient to carry out a public purpose of support or stimulation authorized by law.

A "procurement contract" is defined as a legal instrument between an awarding agency and recipient where the principal purpose is to acquire (by purchase, lease, or barter) property or services for the direct benefit or use of the awarding agency.

For administrative purposes, it is important to note that the purpose of the award determines whether the award is a grant or a procurement action. The administrative procedures for grants are governed by OMB Circulars A–102 and A–110 and agency implementing regulations. The administrative procedures for procurement contracts are governed by the Federal Acquisition Regulations (48 CFR Part 31) or State procedures if the recipient is a State.

Since FHWA planning and research funds may be pooled for planning, as well as RD&T, studies or activities of national or regional significance, the definitions of national and regional pooled-fund studies have been moved from § 420.203 to § 420.103. In addition, both definitions have been modified to indicate: that MPOs, as well as States, may contribute to pooled-fund studies; that national studies are usually administered by the FHWA headquarters office; that regional studies are usually administered by an FHWA regional office in cooperation with a lead State or MPO; and that the funds may be pooled with or without matching. While any of the categories of funds included in the definition of "FHWA planning and research funds" may be pooled, the matching requirement can only be waived for SPR or PL funds. Such waiver must be approved by FHWA headquarters for both national and regional studies in accordance with the provisions of § 420.119(d).

As discussed under the general comments and responses, a definition of State transportation agency has been added. "State transportation agency (STA)" is defined as the State highway department, transportation department, or other State transportation agency to which Federal-aid highway funds are apportioned.

Section 420.105 Policy

This section continues the FHWA's previous policy of allowing States maximum possible flexibility in determining which eligible activities may be undertaken with FHWA planning and research funds, as long as planning activities of national significance, as identified in paragraph (b) of this section, are being adequately addressed. Under the provisions of this section, the FHWA may withhold or withdraw authorization of FHWA planning and research funds if planning activities of national significance are not being performed by a State. As discussed in the preamble to the NPRM, this policy also applies to State subrecipients. Paragraphs (a)(1) through (4) in the NPRM have been rewritten and consolidated for clarity into paragraphs (a)(1) and (2) in the rule without changing the substance of the policy.

One commenter expressed concern about the potential involvement in long range data reporting requirements that would make unexpected demands on its manpower in order to provide data that support FHWA responsibilities as specified in § 420.105(b). The commenter indicated that clarification was needed on this requirement. Another commenter indicated that States should have the right to question the need for particular data requests from the FHWA if the cost of providing such data becomes high.

This provision has been in the regulation since 1986. The major data bases that are referenced in § 420.105(b) are the FHWA's Highway Performance Monitoring System (HPMS) and statistical reports provided by the States for inclusion in the annual publication "Highway Statistics." Both of these data collection activities have been approved by the OMB and are resubmitted for approval every three years. Occasionally, information not included in these ongoing data bases is needed due to special circumstances and enactment of legislation, such as, designation of a National Highway System in accordance the provisions of the ISTEA. With each update of the HPMS and highway statistics reporting requirements and with each special request, the FHWA will continue to make every effort possible to limit the burden to the States while still receiving the information essential to guide the national transportation program.

Section 420.107 SPR Minimum Research, Development, and Technology Transfer Expenditure

This section reflects the requirement in 23 U.S.C. 307(c) that not less than 25 percent of a State's annual SPR funds be expended for RD&T activities unless the State certifies that it will expend more than 75 percent of such funds for transportation planning under 23 U.S.C. 134 and 135. It includes specific procedures and criteria for FHWA approval of a State's certification that were in the FHWA Executive Director's June 25, 1992, memorandum to the FHWA Regional Administrators. (This memorandum is available for review and copying in the file for FHWA docket number 93–18 at the address specified above under the caption FOR FURTHER INFORMATION CONTACT.) The certification must be submitted annually with the work program or with the request for authorization of funds for the second year of a biennial work program. Except for rephrasing of the considerations in paragraphs (c)(1) to (6) to change them from questions to statements, this section is unchanged from the NPRM.

Several commenters expressed concern over the criteria and procedures in § 420.107 for waiver of the requirement for use of 25 percent of a State's annual apportionment of SPR funds. One commenter stated that the proposed rules go far beyond what should be necessary to support such a certification and that it appears that the FHWA is unduly striving to discourage this option. This commenter recommended that the requirements be reduced to an assurance that the State's RD&T needs are being adequately addressed. Similarly, other commenters stated that the requirements for submitting an exception to the use of 25 percent of SPR fund for research are onerous and effectively prohibit exceptions as they are currently written or that the proposed rule indicates that the FHWA will be reluctant to grant exceptions.

While 23 U.S.C. 307(c)(2) requires that a State certify to the Secretary that its total expenditures for transportation planning under 23 U.S.C. 134 and 135 for the fiscal year will exceed 75 percent, it also requires that the certification be accepted by the Secretary. Based on the extensive provisions and emphasis on transportation RD&T in the ISTEA, the FHWA strongly believes that the Congress intended that the States have effective transportation RD&T programs. Therefore, the criteria for approving an exception are being retained.

Section 420.109 Distribution of PL Funds

This section reflects the requirements in 23 U.S.C. 104 that a State must make apportioned PL funds available to MPOs and that the funds must be distributed by the State to MPOs in the State based on a formula, approved by the Secretary (approval authority has been delegated to the FHWA), that considers population, status of planning, attainment of national ambient air quality standards, and other factors necessary to provide for an appropriate distribution of funds to carry out the requirements of 23 U.S.C. 134 and other applicable requirements of Federal law. The FHWA's longstanding interpretation, that the legislative requirement that States make PL funds available to MPOs precludes the use of such funds by the State for administration of PL grants or subgrants, is included in paragraph (a). It is FHWA policy to consult with the appropriate Federal Transit Administration (FTA) regional office prior to approval of a State's PL formula.

One State commented that the requirement in paragraph (a) that "the State shall not use any PL funds for grant or subgrant administration" is too restrictive and should be changed to permit a reasonable amount for administration. Another State commented that under the ISTEA, a State DOT's role in administering and participating in MPO planning activities funded with PL funds has increased significantly and that there should be a provision which permits the State DOT to retain a certain percentage of PL funds for its costs in administering and participating in PL funded programs. Another State commented: that the cost for grant administration historically has been included as part of the funding package of the MPO planning work program; that this new provision may unfairly restrict the use of PL funds to only direct program activity and not permit the State or MPO to use PL funds for organization administration costs; and that by not allowing the use of PL funds for grant or subgrant administration, the FHWA will be placing an unfair economic burden on the various parties concerned.

These comments imply a misunderstanding of both the legislation and regulation. Before responding to these comments, a distinction needs to be made between "grant or subgrant administration" and "general planning process administrative activities." "Grant or subgrant administration" includes activities such as processing or preparing PL grant agreements between

the FHWA and the State, subgrant agreements between the State and the MPOs, fiscal documents, progress reports, and audits. "General planning process administrative activities" may include conducting MPO meetings, preparation of planning work programs, and salaries of an MPO executive director and other administrative support staff.

The legislation has always specified that PL funds are to be made available *to the MPOs* by the State. The FHWA historically has interpreted this to mean that a State cannot unilaterally retain PL funds for any purpose; all PL funds must be made available to the MPOs. If an individual MPO chooses to include activities (e.g., development of a long range plan, traffic counting) to be performed with its PL funds by the State for the MPO in its work program, it may do so. If the required State PL fund distribution formula, developed in consultation with the MPOs, allows for State retainage of PL funds, it may be approved by the FHWA if the retained funds will be used by the State for *technical activities* in support of metropolitan planning or for making discretionary subgrants to MPOs for special studies.

In no instance may PL funds (either in an MPO's work program or retained under an approved formula) be used by a State for PL fund "grant or subgrant administration" as indicated in subparagraph (a). Such State grant or subgrant administrative activities are eligible for SPR funding. "General planning process administrative activities" performed by MPOs are eligible for PL funds. Such general administrative activities performed by a State for an MPO are eligible for SPR funds and would be eligible for PL funds if included in the MPO's work program.

One State commented that it would be concerned if the regulation is administratively construed to require a specific formula for distribution, or require reconsideration of its policy on PL funds.

The requirement that funds be distributed by a State by a formula that considers specific factors has existed since the enactment of the PL funding in 1973. The ISTEA added the additional factor of attainment of the national ambient air quality standards. In developing the formula, the State must consult with the MPOs and must consider the legislatively mandated factors, but all of the factors do not need to be included in the formula. In accordance with paragraph (f), any formula that does not meet these requirements must be brought into conformance as soon as possible, but not later than in time for distribution of PL funds apportioned to the State for the first Federal fiscal year beginning after the effective date of the regulation.

Section 420.111 Work Program

This section includes requirements for State and subrecipient work programs that serve as the application for FHWA planning and research funds. References to 23 CFR part 450 and subpart B of this part are cited for additional information on metropolitan area unified planning work programs and RD&T work programs, respectively. Except for correcting citations to 23 CFR part 450 and changing the first word in paragraph (a) from "expenditure" to "proposed use," this section is unchanged from the NPRM. The work program in essence is a statement of work that identifies the proposed use of the funds; expenditure of the funds is documented in the financial and progress reports.

One commenter stated that the requirement to submit work program documents creates duplicate paperwork for agencies. The commenter stated that the same information is available in work plans for individual studies, and, if FHWA review of individual study work plans is no longer required, submission of a work program is not appropriate.

A work program has always been required for both planning and RD&T activities. The work program is the "grant application" for FHWA planning and research funds and is necessary for the FHWA to determine if the proposed work is eligible. A work program may consist of a listing of proposed studies and activities and other appropriate information, such as cost of the activity and performing agency, with sufficient description for the FHWA to determine eligibility of the work. "Work plans" that included details on need, purpose, approach, etc., for individual RD&T studies are no longer required. Therefore, there is no duplication.

One State commented that while a biennial work program is allowed, it requires a projection of available Federal funds which may be difficult to make on a biennial basis.

Historically, the amount of FHWA planning and research funds available to a State is consistent from year to year over the period covered by authorizing legislation (e.g., the ISTEA). In any case, if a State's or subrecipient's transportation planning is a continuation of the same activities with minimal change in activities over an extended period, use of a 2-year work program should result in a significant reduction in paperwork since draft and final work programs would not need to be prepared and submitted for review and approval in the second year unless significant changes are necessary in the description of work. The initial work program would describe the activities anticipated to be accomplished over the 2-year period along with an estimate of funds for each year. The FHWA would approve the 2-year work program and authorize the first year's work subject to availability of funds. Prior to the beginning of the second year, when the actual amount of funds that will be available is known, the State would only need to submit a request to revise the budget to reflect the actual funds available (and if necessary any significant amendments in the description of work to be accomplished) for the second year and request the FHWA's authorization to proceed with the second year's work.

Section 420.113 Eligibility of Costs

This section includes general criteria and incorporates by reference other regulations and OMB Circulars for determining eligibility of transportation planning and RD&T activities and allowability of items of cost (e.g., salaries, travel) within such activities that are proposed for FHWA planning and research funds. Administrative procedures that must be followed for costs to be eligible for reimbursement are also included.

One commenter requested that a list of examples of transportation planning and RD&T activities that are eligible for FHWA planning and research funds be included in the final rule. Appropriate sections of title 23, U.S.C., that include information on broad categories of eligible activities are included by reference. The FHWA believes that any attempt to provide a more specific listing could be misinterpreted since all eligible activities could not possibly be listed. The longstanding practice of allowing the FHWA field offices to determine eligible activities, in consultation with the headquarters office if necessary, has worked well in the past and will be continued. In addition, the FHWA headquarters office will continue to issue appropriate guidance when necessary on the eligibility of specific types of activities. For example, in response to several inquiries since enactment of the ISTEA, guidance has been provided on the use of FHWA planning and research funds for transportation planning involving modes in addition to highway or transit. As discussed in the preamble to the NPRM, transportation planning studies involving modes in addition to highway

or transit are eligible for FHWA planning and research funds when performed as part of the statewide or metropolitan transportation planning processes.

In response to questions regarding eligibility of travel costs of team members conducting peer reviews of a State's RD&T management process, subpart B has been revised, as discussed below under the responses to comments on subpart B, to specify that such travel costs are eligible for FHWA planning and research funds. While not required by this regulation or 23 CFR part 450, similar peer reviews of statewide and metropolitan transportation planning processes would also be eligible if included in a State or MPO transportation planning work program and it is determined by the FHWA that the costs are necessary, reasonable, and benefit the FHWA planning and research funded transportation planning process.

Paragraph (b) of this section in the NPRM referenced the provisions of 23 CFR part 140, subpart G on the allowability of indirect costs of STA planning and research units. The allowability of such costs for any STA unit that performs work for development, establishment, and implementation of the management and monitoring systems required under 23 U.S.C. 303 was addressed in a May 3, 1994, memorandum to the FHWA and FTA Regional Administrators. (This memorandum is available for review and copying in the file for FHWA docket number 93–18 at the address specified above under the caption FOR FURTHER INFORMATION CONTACT.) To more clearly identify such allowable indirect costs, the reference to 23 CFR part 140, subpart G has been replaced with the specific provisions and information provided in the May 3 memorandum. In accordance with longstanding FHWA interpretation of 23 U.S.C. 302, except as specified in new paragraph (b)(2) of § 420.113, STA indirect costs are not eligible for reimbursement with FHWA planning and research funds. Paragraph (b)(2) specifies that salaries, but not other indirect costs, for services rendered by STA employees generally classified as administrative are eligible for reimbursement for a transportation planning unit, RD&T unit, or other unit performing eligible work with FHWA planning and research funds (including development, establishment, and implementation of the management and monitoring systems required by 23 U.S.C. 303 and 23 CFR part 500). Such STA administrative costs are allowable in the ratio of time spent on the FHWA planning and research funded work in the unit to the total unit's working hours. The FHWA is currently conducting a review of its longstanding policy on eligibility of STA indirect costs and, if necessary based on the results of this review, the provisions in this section will be amended.

Section 420.115 Approval and Authorization Procedures

This section includes procedures for approval of work programs or projects, and amendments thereto, and authorization for work to be performed with FHWA planning and research funds. The governmentwide common grant management provisions for prior awarding agency approval of certain budget and programmatic changes are referenced at 49 CFR 18.30. While executed project agreements are still necessary, the language in paragraph (c) was revised to eliminate reference to forms PR–2 and PR–2A since these forms are currently being revised and the form numbers may change.

Several commenters believe that the requirement for prior FHWA approval for budget and programmatic changes as specified in 49 CFR 18.30 is contrary to the intent of giving States more responsibility and authority. Some commenters also recommended that, after receiving initial FHWA approval of the work programs, additional FHWA approval should only be sought when a budget revision means additional Federal funds are required. One commenter suggested that FHWA approval be sought only when a budget revision exceeds the limits of $10,000 and 15 percent of a research study cost as specified in 23 CFR 511.3(e).

Most of these comments reflect a misunderstanding of the provisions of 49 CFR 18.30 which are governmentwide common grant management provisions that have been applicable to FHWA planning and research funded work programs since revision of OMB Circular A–102 in 1988 and issuance of 49 CFR part 18. These provisions were included in 23 CFR part 420 in the 1990 update and are unchanged in this final rule.

The limit of $10,000 and 15 percent under 23 CFR 511.3(e), applies to *individual* RD&T studies; for example, a cost increase of greater than $15,000 for a $100,000 study would require prior approval. Under the provisions of 49 CFR 18.30(c)(1)(ii), the State may make budget transfers among direct cost categories (e.g., individual RD&T studies) without FHWA prior approval unless the *total* of such transfers over the period of the work program will, or is expected to, exceed the larger of $100,000 or 10 percent of the total approved (i.e., work program) budget. For example, if an RD&T work program totals $2 million, the State may transfer $200,000 among direct cost line items included in the work program without prior FHWA approval. At the discretion of the FHWA, this prior approval requirement may be waived. Thus the use of the provisions of 49 CFR 18.30 provide more flexibility and authority to the State than the provisions that are being replaced.

On the other hand, a budget change that involves an increase in the total funds authorized for the work program still requires prior FHWA approval and authorization. Similarly, the programmatic changes (e.g., adding a line item, contracting out) specified in 49 CFR 18.30(d) require prior FHWA approval.

One commenter interpreted the provisions of paragraphs (b) and (c) of this section to imply that the State can impose obligation limitations on subrecipients of the PL funds and requested that it be clarified to indicate that such limits can indeed be applied.

The provisions of these paragraphs are not new and are not related to the issue of distribution of available obligation authority within a State. These provisions allow work to proceed and be reimbursed at a later date in situations where sufficient funds or obligation authority are not available at the time authorization is requested for all work in a statewide or metropolitan area work program. Obligation authority is distributed to the States for use by the States as determined in cooperation with the FHWA field offices. In general, neither legislation nor the FHWA specifies categories of funds for which the States must use the obligation authority. States may choose to request authorization of only a portion of the PL funds needed for a work program period, but would then need to ensure that additional funds are requested and authorized prior to the MPO proceeding with the remainder of the work program. Such partial funding necessitates processing of project amendments and additional paperwork. It also could result in an MPO performing work that would be ineligible for reimbursement if the work is performed prior to approval of the amendment. Such partial funding should be avoided if possible.

Section 420.117 Program Monitoring and Reporting

This section includes grant monitoring and reporting requirements. The frequency and content of progress and financial reports specified in paragraphs (a) through (d) are identical

to those contained in the governmentwide common grant management requirements and 49 CFR 18.40 which is referenced in paragraph (a). Paragraph (e) requires FHWA approval prior to publication of reports that document the results of work performed with FHWA planning and research funds. A State may request waiver of this prior approval requirement. The reference to the Federal-aid Project Agreement (Form PR–2) in the first sentence of paragraph (e) has been deleted since Form PR–2 is being revised and the contents of the cited provision for prior approval of reports are included in this paragraph.

Several commenters believe that these reporting requirements are contrary to the concept of delegation of program management responsibility to the State which should be allowed to determine how to monitor its research program; FHWA review and approval should be limited to assurance that an adequate monitoring process is in place and is being used to guide the State's program; and, if a State truly has responsibility for managing its own program, the State should determine the needed frequency of reporting for adequately monitoring projects. Another commenter recommended that an annual report should be adequate and that the reporting format should be kept simple.

These grant reporting requirements are not new and are standard governmentwide grant reporting requirements that replaced more comprehensive requirements that were in 23 CFR part 420 prior to 1990. These reports are necessary for the FHWA to perform its grant oversight responsibilities. Progress and financial reports that include the specified information must be submitted at least annually. The FHWA field offices may require more frequent reports, but not more than quarterly, unless the State is determined to be a high-risk grantee in accordance with the provisions of 49 CFR 18.12. The reporting requirements are for the work program (i.e., grant), not for individual "projects/studies." The progress reports previously required in 23 CFR part 511 for individual research studies are no longer required. Progress on individual studies would be addressed in the overall work program report. A State may establish additional reporting procedures that meet its needs for individual studies.

Similarly, another commenter stated that § 420.117 requires an increased level of reporting activity and that the interpretation and administration of this section could produce some very demanding requirements. This commenter also questioned who would establish and approve performance goals, and what level of detail would be required.

As indicated above, this section is unchanged from the existing regulation and does not require increased reporting. The level of reporting will only be greater for a State or subrecipient if the State or subrecipient was not in compliance with the existing requirements.

One commenter recommended that the reporting provisions be flexible enough to allow monthly reports if agreed to by the agency and the subrecipient.

As mentioned above, the FHWA may require more frequent reports, but may not require submission of reports more than quarterly unless a recipient or subrecipient is determined to be a high risk. A State may establish the frequency of progress and financial reports for its subgrantees, but is encouraged not to impose more burdensome requirements than those imposed upon the State by the FHWA.

One commenter stated that the requirement in § 420.117(c) that reports from subrecipients be submitted no more than 90 days after the end of the reporting period does not allow sufficient time to complete the audit of the work program, especially when the MPO has elected a 2-year cycle for the audit to be performed. It was suggested that the 90-day requirement be deleted and the timeframe be determined by the State with approval of the FHWA.

The commenter is confusing grant audit requirements with grant reporting requirements. In accordance with governmentwide common grant management requirements, final progress and financial reports for a grant (i.e., the annual/biennial work program) must be submitted within 90 days of the end of the grant period. If the later financial audit, which covers the MPO's fiscal year and typically is not completed until a year after the end of the grant period, necessitates adjustments, the grant may be reopened or adjustment may be made to a current grant, as appropriate. With regard to the statement that an MPO has been operating under a 2-year cycle for financial audits, in accordance with the OMB Circular A–128, Single Audits of State and Local Governments, audits must be performed annually unless a constitutional or statutory requirement for less frequent audit was in effect by January 1, 1987.

One commenter stated that the requirement that a State must request a waiver of prior approval of report publication is an unnecessary and demeaning retention of FHWA authority; the State should have sole responsibility and authority to publish reports that follow accepted editorial formatting for electronic data base management and retrieval purposes; and the use of a report as evidence of work performed and approval for publication are two separate issues and should not be combined. Another commenter stated that FHWA approval of reports prior to publication is inconsistent with the intent of allowing States flexibility in managing their own programs.

With respect to "editorial formatting," the FHWA does not review reports for this purpose. The FHWA agrees that the use of a report as evidence of work performed and approval for publication are two separate issues, but does not agree that they should not be combined. This comment implies that the report should be submitted to the FHWA *after* publication for acceptance as evidence of work performed. In addition to determining if the proposed work that was approved as part of the grant was performed, the FHWA should have an opportunity to determine if the contents of the report are supported by the work performed since the published report will include a credit reference to the FHWA. Also, submission prior to publication allows a State to use FHWA expertise, if desired, to identify any necessary technical corrections prior to publication and distribution. If, based on past performance, an FHWA field office is satisfied that prior review is unnecessary and a State requests a waiver of the prior review requirement, the field office may grant the waiver for all reports or for selected categories (e.g., State planning, MPO planning, all research, or bridge research). A waiver may be granted for an indefinite period of time, annually, or any other appropriate period. Whether or not a waiver is approved, appropriate reports that document work performed with FHWA planning and research funds must be prepared, the reports must include a credit reference and disclaimer statement, and copies must be provided to the FHWA as evidence of work performed.

Section 420.119 Fiscal Procedures

This section includes fiscal requirements for administration, matching, and payment for FHWA planning and research funds. Paragraph (c) specifies that the statewide and, if appropriate, metropolitan transportation improvement program provisions of 23 CFR Part 450 need to be met for the use of NHS, STP, MA, or HBRRP funds for planning or RD&T purposes. Paragraph (d) includes provisions for waiver of matching requirements for SPR and PL

funds (this option is not applicable for optional use of STP, NHS, MA, or HBRRP funds for planning or RD&T activities). If the FHWA determines that the interests of the Federal-aid program would be best served without matching, it may waive the matching requirement for individual activities or regional or national pooled-fund studies.

Two commenters stated that authority to approve 100 percent Federal funding should be delegated to the FHWA regional offices.

The approval authority for 100 percent Federal funding will remain with the Associate Administrator for Program Development (for planning activities) and the Associate Administrator for Research and Development (for RD&T activities) since these offices are in the best position to determine whether the interests of the Federal-aid highway program would be best served and whether the proposed work can be more effectively addressed if the matching requirement is waived.

Several commenters stated that limiting the cost to a minimum of $50,000 for cooperatively (pooled) funded projects and requiring an agency's contribution to be at least $10,000 were inappropriate.

Due to administrative costs and the time involved in coordinating pooled-fund studies, proposed national studies costing less than $50,000 will not be accepted. In response to the comments, the minimum agency contribution of $10,000 has been deleted. Agencies contributing less than $10,000 to a national pooled-fund study may participate in the technical committee meetings, but will not be reimbursed from the pooled funds for their expenses to attend the meetings. At the discretion of the FHWA regional offices and participating agencies, regional pooled-fund studies of less than $50,000 may be undertaken and travel costs may be reimbursed from the regional pooled funds for expenses for attendance at technical committee meetings of representatives of agencies that contribute less than $10,000.

Section 420.121 Other Requirements

This section contains, mostly by cross reference, other legislative or regulatory requirements applicable to FHWA planning and research fund grants. Except as noted below, this section is unchanged from the NPRM.

With respect to paragraph (d), one commenter stated that it appears that the regulation does not differ from present procedures with respect to the acquisition of research equipment. It was suggested that more latitude be given to the States for the purchase of research equipment with SPR funds when the equipment will clearly be devoted to research at a facility largely supported by SPR funds.

In accordance with governmentwide grant management procedures and cost principles, equipment is eligible if the cost is necessary, reasonable, and it benefits the grant. Individual items of equipment must be identified in the grant application (i.e., the work program) and will be reviewed for eligibility on a case-by-case basis. In general, if the equipment will be used only for FHWA funded work, all of the cost may be eligible. If the equipment will be used for work funded by other sources, the cost should be shared on an equitable basis or through the establishment of rental/use rates.

As noted above under the heading General Comments and Responses, paragraph (o) has been added to this section. This new paragraph specifies that subawards to institutions of higher education, hospitals, and other nonprofit organizations will be administered by the State in accordance with the provisions of OMB Circular A–110 (58 FR 62992) and the U.S. DOT's implementing regulations, 49 CFR part 19 (59 FR 15657). (Copies of OMB Circular A–110 and 49 CFR part 19 are available for review and copying in the file for FHWA docket number 93–18 at the address specified above under the caption FOR FURTHER INFORMATION CONTACT.)

A new paragraph (p) has been added to specify that reports and other documents prepared under FHWA planning and research funded grants or subgrants awarded after the effective date of this regulation must be in metric units.

Subpart B—Research, Development, and Technology Transfer Program Management

General Comments and Responses

Comment: Several commenters requested clarification concerning various aspects of the peer review process, including the purpose and use of the results of the reviews, funding of travel for review team members, and frequency of the reviews.

Response: It is the State's responsibility to initiate a peer review of its RD&T management process. An initial peer review should be undertaken sometime during the first three years after the State's management process has been approved by the FHWA Division Office.

The peer review is intended to review a State's management process, not the content of its RD&T program. It will not be used for compliance or certification. Peer reviews should help in identifying, reinforcing, and conveying effective program approaches across the country and enable a nationwide sharing of successful practices and policies. The purpose of providing the peer review report and a written response to the report findings to the FHWA Division Administrator is primarily to keep the Division Administrator informed of the status of the State's program and what efforts are being taken to improve the program.

The members of the peer review team will be selected by the State. The FHWA will establish criteria for team members and will develop and maintain a list of qualified individuals who will be available to serve on the teams. At least two members of the peer review team must be selected from this list.

A State may include a line item in its work program to pay for the peer review of its RD&T program with FHWA planning and research funds. The FHWA will consider establishing a national pooled-fund project if there is sufficient interest from the States and if it would expedite the peer review process.

The "periodic basis" for conducting peer reviews has been determined by the FHWA to be once every three years. After experience has been gained operating under the new procedures, consideration will be given to extending the time period between reviews.

Comment: Comments were mixed on whether the proposed rule should be mandatory for all States or whether a State could continue to submit individual RD&T studies for Federal approval.

Response: The option to submit individual studies for Federal approval (i.e., to continue operating under current procedures) has not been included in the final rule. The regulations are mandatory for all States. The final regulation provides a State with considerable latitude in developing and managing its RD&T activities and supports the intent of ISTEA to move the decisionmaking process to the State level.

The FHWA is available, at a State's request, to assist in reviewing any RD&T activities that are highly technical or require special expertise.

Comment: One commenter stated that the FHWA's intent concerning the degree of RD&T program interaction within State agencies should be more clearly stated. Specifically, expectations regarding the degree of management involvement at various organizational levels should be disclosed.

Response: Due to the different organizational structures of the States, it is not possible to be specific concerning the degree of management involvement. Each State should involve those management levels that are necessary to develop and implement an RD&T program that addresses high priority transportation issues.

Comment: One commenter stated that the NPRM implies that the FHWA is going to require a uniform format for State work programs since the information will be entered into a national data base.

Response: There is no intent to require a uniform work program format. The FHWA will encourage the States to include summary sheets listing all studies and costs followed by more detailed information on individual studies in their work programs. Also, as part of its management process, each State is required to use the Transportation Research Board's Transportation Research Information Services (TRIS) for reporting its active RD&T activities. It will be the State's responsibility to enter its new RD&T activities into the TRIS data base. Since uniform entries will be required for the data base, it could reasonably result in the States' work programs becoming more uniform to simplify data entry.

Comment: Several commenters expressed concern about the requirement that each State implement a program of RD&T activities for planning, design, construction, and maintenance of highways, public transportation, and intermodal transportation systems. The concerns were that the budgets for the smaller States are not sufficient to support activities in all of these areas; the FHWA is requiring the States to set up separate groups of funding for highway, transit, and intermodal research; and the term "program of RD&T activities" is not defined.

Response: The ISTEA *allows* the use of FHWA planning and research funds for RD&T activities noted in § 420.207. The regulation reflects the types of activities that may be conducted, but does not mandate that particular types be conducted. Each State is to develop a program that addresses its highest priority transportation research needs. The priorities will vary from State to State depending on such factors as the size of the State, its population, and the size and number of urban areas. This regulation does not establish separate groups of funds for highway, transit, or intermodal research.

Comment: One commenter stated that the conditions for grant approval appear to require more paperwork than currently required.

Response: Initially, for some States, it may require additional effort to document the State's RD&T management process. Once the management process has been documented and approved by the FHWA the amount of paperwork between the State and the FHWA should be reduced substantially. Paperwork on individual RD&T activities essentially will be eliminated.

Comment: One commenter was concerned that without additional explanation each FHWA Division Office would have a different interpretation of the requirement that a State have procedures to determine the effectiveness of its RD&T program.

Response: Guidelines for implementing subpart B are being developed. These guidelines will expand on the requirements in § 420.207. As a minimum, a State should develop a follow-up procedure to determine if the RD&T results have been incorporated into the State's standard plans, specifications, practices, or procedures. A more detailed process could involve benefit/cost ratios or other effectiveness measures.

Comment: One commenter stated that to list individual studies in the work program reduced the State's ability to be responsive to research needs as they arise during the year. According to the commenter this will cause a delay in the start of new research by having to wait for the next program approval or for approval of an amended program.

Response: A listing of individual studies in the work program is necessary for the FHWA Division Office to determine if the items are eligible for FHWA planning and research funds. Addition or deletion of individual studies is a programmatic change that requires prior FHWA approval. Such prior approval may be waived by the FHWA division office; however, the total FHWA planning and research funds authorized for the work program cannot be exceeded without FHWA prior authorization. It is anticipated that once a State has demonstrated that it has an adequate RD&T management process that meets the requirements of this rule, the FHWA Division Office would consider a request for waiver of prior approval of programmatic changes in the work program.

Section-by-Section Analysis

Section 420.201 Purpose and Applicability

This section states the purpose of subpart B. It indicates that the requirements are applicable to RD&T activities performed by the States and their subrecipients with FHWA planning and research funds. It references the provisions of subpart A. This section is unchanged from that proposed in the NPRM.

Section 420.203 Definitions

This section includes the definitions in 23 U.S.C. 101(a) and subpart A and provides additional definitions for terms used in this subpart.

Several commenters stated that the definition of "peer review" in the NPRM could be misinterpreted to require participation of representatives of specific organizations listed in the definition and that the definition should be revised to clearly state what is intended. The definition has been revised to indicate that a "peer review" is a review of a State's RD&T program conducted by persons who are knowledgeable in RD&T management and operation and to clarify that the peer review team *may* include, and is not limited to, representatives of another State, the FHWA, the American Association of State Highway and Transportation Officials, the Transportation Research Board, universities, or the private sector.

Commenters suggested that definitions of the terms "RD&T activity" and "intermodal RD&T" be included to provide an indication of individual or categories of activities that are included in these terms that are used in other sections of the rule.

The FHWA has added definitions of these two terms.

Section 420.205 Policy

This section explains the FHWA's intent to allow States maximum flexibility and discretion in managing and directing their FHWA planning and research funded RD&T activities while ensuring proper utilization of Federal funds and avoiding unnecessary duplication of effort.

Except for removal of paragraph (h), this section is unchanged from the NPRM. Paragraph (h) includes the nondiscrimination provisions of title VI of the Civil Rights Act of 1964 and DOT and FHWA implementing regulations. Most of this paragraph was redundant of § 420.121(m), which applies to RD&T as well as planning programs. The citation to 23 CFR part 200 that was in this paragraph has been moved to § 420.121(m).

Section 420.207 Conditions for Grant Approval

This section outlines the conditions that a State must meet for approval of

FHWA planning and research funds for its RD&T activities.

Paragraph (b) has been revised to indicate that a State's work program "may" include a line item for the costs associated with a peer review of its RD&T program.

The FHWA will establish criteria and develop and maintain a list of qualified individuals who will be available to serve on peer review teams. A requirement has been added to paragraph (b) providing that at least two members of the peer review team must be selected from the FHWA list.

The last sentence in paragraph (c) has been rewritten to eliminate the impression that the peer review team is under the direction of the FHWA.

Section 420.209 RD&T Work Program

This section outlines the items that must be included in a State's work program and incorporates by reference § 420.115 for approval and authorization procedures. The title of this section has been changed from "State work program" to "RD&T work program" since it includes provisions applicable to the RD&T program. A requirement to include a summary, listing the major items and estimated cost, has been added to this section. The summary will provide a quick overview of the content of a State's RD&T program.

Section 420.211 Eligibility of Costs

This section indicates eligible costs for FHWA participation in RD&T activities and references § 420.113 for other eligible costs. Paragraph (c) was revised to conform with § 420.113(b).

Section 420.213 Certification Requirements

This section provides the format for a State's certification indicating (1) State compliance with the requirements of this subpart; (2) the condition under which a new certification is required; and (3) the due date for the initial certification.

Several commenters noted that some States may not be able to comply with the proposed January 1, 1995, certification date. The date for certification has been changed to June 30, 1995. In addition, a provision has been added that allows the FHWA Division Administrator to grant conditional approval of a State's RD&T management process for a State unable to achieve full compliance by June 30, 1995. A conditional approval would cite those areas of the State's management process that are deficient and that all deficiencies would need to be corrected by January 1, 1996.

Questions were asked on how often a certification needs to be submitted and if a State could begin operating under the new procedures prior to proposed date of January 1, 1995. The certification is a one-time submittal, unless a State significantly changes its RD&T management process. A copy of the State's certification is to be submitted with its work program. A State may begin operating under these procedures as soon as its RD&T management process is approved by the FHWA.

Section 420.215 Procedure for Withdrawal of Approval

This section outlines the procedures used and penalties imposed if a State is not complying with the requirements of this subpart or is not performing in accordance with its RD&T management process.

Paragraph (d) in the NPRM proposed that, for any State not in compliance, the FHWA would withdraw the State's ability to approve RD&T activities and require the State to submit individual studies for FHWA approval. This approval requirement is similar to current procedures and would have provided little incentive for a State to correct deficiencies in its program. Therefore, paragraph (d) has been revised to indicate that an adverse decision shall result in the immediate withdrawal of FHWA planning and research funding for the State's RD&T activities until the State is in full compliance.

Rulemaking Analyses and Notices

Executive Order 12866 (Regulatory Planning and Review) and DOT Regulatory Policies and Procedures

The FHWA has determined that this rulemaking is not a significant regulatory action within the meaning of Executive Order 12866 or a significant regulation under the regulatory policies and procedures of the Department of Transportation. This action amends requirements for administration of FHWA planning and research funds to be consistent with legislative changes made by the ISTEA. Also, this rulemaking establishes a mandatory State certification process and a Federal and peer review process to determine annually whether each State complies with the standards for State RD&T management in subpart B. The economic costs of this rulemaking will be insignificant and will consist only of the costs associated with preparation of the grant applications and State development of procedures for RD&T management. The cost savings that will be realized by the States due to the reduction in time to initiate and conduct RD&T activities under the State RD&T management provisions will more than offset the one-time cost of development of the procedures.

Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (5 U.S.C. 601–612), the FHWA has evaluated the effects of this rule on small entities. This rule addresses the administrative procedures and requirements that States must comply with when using FHWA planning and research funds provided under title 23, U.S.C. This rule does not impose any direct requirement on small entities that would result in increased economic costs. Based on this evaluation, the FHWA certifies that this rule will not have a significant economic impact on a substantial number of small entities.

Executive Order 12612 (Federalism Assessment)

This action has been analyzed in accordance with the principles and criteria contained in Executive Order 12612. Although this rule relates to requirements that States must meet to be eligible for FHWA planning and research funds, federalism implications, though unavoidable, would be minimized. Nothing in this rule preempts any State law or regulation. The rule provides States increased authority and flexibility to manage their federally assisted State planning and research programs. This increase in authority and flexibility is in concert with the principles and criteria contained in Executive Order 12612 for the implementation of express statutory provisions. Accordingly, the FHWA certifies that this rule does not have sufficient Federalism implications to warrant the preparation of a full Federalism Assessment under the principles and criteria contained in Executive Order 12612.

Executive Order 12372 (Intergovernmental Review)

Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation of Federal programs and activities apply to this program.

Paperwork Reduction Act

The information collection requirements referenced in § 420.105(b) have been approved by the OMB under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501–

3520) and have been assigned OMB control numbers 2125–0028 and 2125–0032. The information collection requirements in §§ 420.111 (a), (b), and (c), and 420.117 (b) and (c) for metropolitan planning areas have been approved by the OMB and assigned control number 2132–0529. The information collection requirements in §§ 420.111 (a), (b), and (c), 420.117 (b) and (c), and 420.213 (a) and (b) for State planning and RD&T activities have been submitted to the OMB for approval.

National Environmental Policy Act

The agency has analyzed this action for the purpose of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) and has determined that this action would not have any effect on the quality of the environment.

Regulation Identification Number

A regulation identification number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

For the reasons set out in the preamble, and under the authority of 23 U.S.C. 315 and 49 CFR 1.48, title 23, Code of Federal Regulations, is revised as set forth below.

List of Subjects in 23 CFR Parts 420 and 511

Accounting, Grant programs—transportation, Highways and roads, Planning, Reporting and recordkeeping requirements, Research.

Issued on: July 18, 1994.

Rodney E. Slater,

Federal Highway Administrator.

In consideration of the foregoing, the FHWA amends Chapter I of title 23, Code of Federal Regulations, by revising the heading of subchapter E, by revising part 420, and by removing and reserving part 511 as set forth below.

SUBCHAPTER E—PLANNING AND RESEARCH

1. The heading of subchapter E is revised as set forth above.

2. Part 420 is revised to read as follows:

PART 420—PLANNING AND RESEARCH PROGRAM ADMINISTRATION

Subpart A—Administration of FHWA Planning and Research Funds

Sec.
420.101 Purpose and applicability.
420.103 Definitions.
420.105 Policy.
420.107 SPR minimum research, development, and technology transfer expenditure.
420.109 Distribution of PL funds.
420.111 Work program.
420.113 Eligibility of costs.
420.115 Approval and authorization procedures.
420.117 Program monitoring and reporting.
420.119 Fiscal procedures.
420.121 Other requirements.

Subpart B—Research, Development and Technology Transfer Program Management

Sec.
420.201 Purpose and applicability.
420.203 Definitions.
420.205 Policy.
420.207 Conditions for grant approval.
420.209 State work program.
420.211 Eligibility of costs.
420.213 Certification requirements.
420.215 Procedure for withdrawal of approval.

Authority: 23 U.S.C. 103(i), 104(f), 115, 120, 133(b), 134(n), 157(c), 303(g), 307, and 315; and 49 CFR 1.48(b).

Subpart A—Administration of FHWA Planning and Research

§ 420.101 Purpose and applicability.

This part prescribes the Federal Highway Administration (FHWA) policies and procedures for the administration of activities undertaken by States and their subrecipients, including Metropolitan Planning Organizations (MPOs), with FHWA planning and research funds. It applies to activities and studies funded as part of a recipient's or subrecipient's work program or as separate Federal-aid projects that are not included in a work program. This subpart also is applicable to the approval and authorization of research, development, and technology transfer (RD&T) work programs; additional policies and procedures regarding administration of RD&T programs are contained in subpart B of this part. The requirements in this part supplement those in 49 CFR Part 18 which are applicable to administration of these funds.

§ 420.103 Definitions.

Unless otherwise specified in this part, the definitions in 23 U.S.C. 101(a) are applicable to this part. As used in this part:

Grant agreement means a legal instrument between an awarding agency and recipient where the principal purpose is to provide funds to the recipient to carry out a public purpose of support or stimulation authorized by law.

FHWA planning and research funds means:

(1) State planning and research (SPR) funds (the 2 percent funds authorized under 23 U.S.C. 307(c)(1));

(2) Metropolitan planning (PL) funds (the 1 percent funds authorized under 23 U.S.C. 104(f) to carry out the provisions of 23 U.S.C. 134(a));

(3) National highway system (NHS) funds authorized under 23 U.S.C. 104(b)(1) used for transportation planning in accordance with 23 U.S.C. 134 and 135, highway research and planning in accordance with 23 U.S.C. 307, highway-related technology transfer activities, or development and establishment of management systems under 23 U.S.C. 303;

(4) Surface transportation program (STP) funds authorized under 23 U.S.C. 104(b)(3) used for highway and transit research and development and technology transfer programs, surface transportation planning programs, or development and establishment of management systems under 23 U.S.C. 303; and

(5) Minimum allocation funds authorized under 23 U.S.C. 157(c) used for carrying out, respectively, the provisions of 23 U.S.C. 307(c)(1) (up to 1½ percent) and 23 U.S.C. 134(a) (up to ½ percent).

Metropolitan planning area means the geographic area in which the metropolitan transportation planning process required by 23 U.S.C. 134 and section 8 of the Federal Transit Act (49 U.S.C. app. 1607) must be carried out.

Metropolitan planning organization (MPO) means the forum for cooperative transportation decisionmaking for a metropolitan planning area.

National pooled-fund study means a planning or RD&T study or activity expected to solve problems of national significance, usually administered by the FHWA headquarters office in cooperation with States and/or MPOs, that is funded by State and/or MPO contributions of FHWA planning and research funds, with or without matching funds.

Procurement contract means a legal instrument between an awarding agency and recipient where the principal purpose is to acquire (by purchase, lease, or barter) property or services for the direct benefit or use of the awarding agency.

Regional pooled-fund study means a planning or RD&T study expected to solve problems of regional significance,

usually administered by an FHWA region office in cooperation with a lead State and/or MPO, that is funded by State and/or MPO contributions of FHWA planning and research funds, with or without matching funds.

State transportation agency (STA) means the State highway department, transportation department, or other State transportation agency to which Federal-aid highway funds are apportioned.

Work program means a periodic statement of proposed work and estimated costs that document the eligible activities to be undertaken with FHWA planning and research funds during the next 1 or 2-year period by STAs and/or their subrecipients.

§ 420.105 Policy.

(a) Within the limitations of available funding and with the understanding that planning activities of national significance, identified in paragraph (b) of this section, and the requirements of 23 U.S.C. 134, 135, 303, and 307(c) are being adequately addressed, the FHWA will allow STAs and their subrecipients:

(1) Maximum possible flexibility in the use of FHWA planning and research funds to meet highway and multimodal transportation planning and RD&T needs at the national, State, and local levels while ensuring legal use of such funds and avoiding unnecessary duplication of efforts; and

(2) To determine which eligible planning and RD&T activities they desire to support with FHWA planning and research funds and at what funding level.

(b) The STAs shall provide data that support the FHWA's responsibilities to the Congress and to the public. These data include, but are not limited to, information required for: Preparing proposed legislation and reports to the Congress; evaluating the extent, performance, condition, and use of the Nation's transportation systems; analyzing existing and proposed Federal-aid funding methods and levels and the assignment of user cost responsibility; maintaining a critical information base on fuel availability, use, and revenues generated; and calculating apportionment factors.

(The information collection requirements in paragraph (b) of § 420.105 have been approved by the Office of Management and Budget (OMB) under control numbers 2125–0028 and 2125–0032.)

§ 420.107 SPR minimum research, development, and technology transfer expenditure.

(a) In accordance with the provisions of 23 U.S.C. 307(c), not less than 25 percent of the SPR funds apportioned to a State for a fiscal year shall be expended for RD&T activities relating to highway, public transportation, and intermodal transportation systems, unless the State certifies, and the FHWA accepts the State's certification, that total expenditures by the State during the fiscal year for transportation planning under 23 U.S.C. 134 and 135 will exceed 75 percent of the amount apportioned for the fiscal year.

(b) Prior to submitting a request for an exception to the 25 percent requirement, the State shall ensure that:

(1) The additional planning activities are essential and there are no other reasonable options available for funding these planning activities (including the use of National Highway System, Surface Transportation Program, or Federal Transit Administration Section 26(a)(2) funds or by deferment of lower priority planning activities);

(2) The planning activities have a higher priority than RD&T activities in overall needs of the State for a given year; and

(3) The total level of effort by the State in RD&T (using both Federal and State funds) is adequate.

(c) If the State chooses to pursue an exception, the request, along with supporting justification, shall be sent to the FHWA Division Administrator for action by the FHWA Associate Administrator for Research and Development. The Associate Administrator's decision shall be based upon the following considerations:

(1) Whether the State has a process for identifying RD&T needs and for implementing a viable RD&T program.

(2) Whether the State is contributing to cooperative RD&T programs or activities, such as the National Cooperative Highway Research Program, the Transportation Research Board, the implementation of products of the Strategic Highway Research Program, and pooled-fund studies.

(3) Whether the State is using SPR funds for technology transfer and for transit or intermodal research and development to help meet the 25 percent minimum requirement.

(4) The percentage or amount of the State's FHWA planning and research funds that were used for RD&T prior to enactment of the 25 percent requirement and whether the percentage or amount will increase if the exception is approved.

(5) If an exception is approved for the fiscal year, whether the State can demonstrate that it will meet the requirement or substantially increase its RD&T expenditures over a multi-year period.

(6) Whether the amount of Federal funds needed for planning for the program period exceeds the total of the 75 percent limit for the fiscal year and any unexpended (including unused funds that can be released from completed projects) funds for planning from previous apportionments.

(d) If the State's request for an exception is approved, the exception will be valid only for the fiscal year in which the exception is approved. A new request must be submitted in subsequent fiscal years.

§ 420.109 Distribution of PL funds.

(a) States shall make all PL funds authorized by 23 U.S.C. 104(f) available to the MPOs in accordance with a formula developed by the State, in consultation with the MPOs, and approved by the FHWA. The State shall not use any PL funds for grant or subgrant administration.

(b) In developing the formula for distributing PL funds, the State shall consider population, status of planning, attainment of air quality standards, metropolitan area transportation needs, and other factors necessary to provide for an appropriate distribution of funds to carry out the requirements of 23 U.S.C. 134 and other applicable requirements of Federal law.

(c) As soon as practicable after PL funds have been apportioned by the FHWA to the States, the STAs shall inform the MPOs and the FHWA of the amounts allocated to each MPO.

(d) If the STA, in a State receiving the minimum apportionment of PL funds under the provisions of 23 U.S.C. 104(f)(2), determines that the share of funds to be allocated to any MPO results in the MPO receiving more funds than necessary to carry out the provisions of 23 U.S.C. 134(a), the STA may, after considering the views of the affected MPOs and with the approval of the FHWA, use these funds to finance transportation planning outside of metropolitan planning areas.

(e) In accordance with the provisions of 23 U.S.C. 134(n), any PL funds not needed for carrying out the metropolitan planning provisions of 23 U.S.C. 134 may be made available by the MPOs to the State for funding statewide planning activities under 23 U.S.C. 135, subject to approval by the FHWA.

(f) Any State PL fund distribution formula that does not meet the requirements of paragraphs (a) or (b) of this section shall be brought into conformance with such requirements as soon as possible, but no later than in time for distribution of PL funds apportioned to the State for the first

Federal fiscal year beginning after August 22, 1994.

§ 420.111 Work program.

(a) Proposed use of FHWA planning and research funds shall be documented by the STAs and subrecipients in a work program(s) acceptable to the FHWA. Statewide, metropolitan, other transportation planning activities, and transportation RD&T activities may be administered as separate programs, paired in various combinations, or brought together as a single work program. Similarly, these transportation planning and RD&T activities may be authorized for fiscal purposes as one combined Federal-aid project or as separate Federal-aid projects. The expenditure of PL funds for transportation planning outside of metropolitan planning areas under § 420.109(d) may be included in the work program for statewide transportation planning activities or in a separate work program submitted by the STA.

(b) Work program(s) that document transportation planning activities shall include a description of work to be accomplished and cost estimates for each activity. Additional information on metropolitan planning area work programs is contained in 23 CFR 450.314. Additional information on research, development, and technology transfer work program content and format is contained in subpart B of this part.

(c) The STAs that use separate Federal-aid projects in accordance with § 420.111(a) shall submit, in addition to the financial information specified below for each program, one overall summary showing the funding for the entire FHWA funded planning, research, development, and technology transfer effort. Each work program shall include a financial summary that shows:

(1) Federal share by type of fund;

(2) Matching rate by type of fund;

(3) State and/or local matching share; and

(4) Other State or local funds.

(d) The STAs and MPOs also are encouraged to include cost estimates for transportation planning, research, development, and technology transfer related activities funded with other Federal or State and/or local funds; particularly for producing the FHWA-required data specified in paragraph (b) of § 420.105, for planning for other transportation modes, and for air quality planning activities in areas designated as nonattainment for transportation-related pollutants in their work programs. The MPOs in Transportation Management Areas shall include such information in their work programs in accordance with the provisions of 23 CFR part 450.

(The information collection requirements in §§ 420.111(a), (b), and (c), and 420.117(b) and (c) for metropolitan planning areas have been approved by the OMB and assigned control number 2132–0529.)

§ 420.113 Eligibility of costs.

(a) Costs will be eligible for FHWA participation provided that the costs:

(1) Are for work performed for activities eligible under the section of title 23, U.S.C., applicable to the class of funds used for the activities;

(2) Are verifiable from the STA's or the subrecipient's records;

(3) Are necessary and reasonable for proper and efficient accomplishment of project objectives and meet the other criteria for allowable costs in the applicable cost principles cited in 49 CFR 18.22;

(4) Are included in the approved budget, or amendment thereto; and

(5) Were not incurred prior to FHWA authorization.

(b)(1) Except as specified in paragraph (b)(2) of this section, indirect costs of an STA are not eligible for reimbursement with FHWA planning and research funds.

(2) Salaries for services rendered by STA employees who are generally classified as administrative are eligible for reimbursement for a transportation planning unit, RD&T unit, or other unit performing eligible work with FHWA planning and research funds (including development, establishment, and implementation of the management and monitoring systems required by 23 U.S.C. 303 and 23 CFR part 500) in the ratio of time spent on the participating portion of work in the unit to the total unit's working hours.

(c) Indirect costs of MPOs and local governments are allowable if supported by a cost allocation plan and indirect cost proposal approved in accordance with the provisions of OMB Circular A–87. An initial plan and proposal must be submitted to the Federal cognizant or oversight agency for negotiation and approval prior to recovering any indirect costs. The cost allocation plan and indirect cost proposal shall be updated annually and retained by the MPO or local government, unless requested to be resubmitted by the Federal cognizant or oversight agency, for review at the time of the audit required in accordance with 49 CFR Part 90. If the MPO or local government's indirect cost rate varies significantly from the rate approved for the previous year, or if the MPO or local government changes its accounting system and affects the previously approved indirect cost allocation plan and proposal or rate and its basis of application, the indirect cost allocation plan and proposal shall be resubmitted for negotiation and approval. In either case, a rate shall be negotiated and approved for billing purposes until a new plan and proposal are approved.

(d) Indirect costs of other STA subrecipients, including other State agencies, are allowable if supported by a cost allocation plan and indirect cost proposal prepared, submitted, and approved by the cognizant or oversight agency in accordance with the OMB requirements applicable to the subrecipient.

§ 420.115 Approval and authorization procedures.

(a) The STA and its subrecipients shall obtain work program approval and authorization to proceed prior to beginning work on activities in the work program. Such approvals and authorizations should be based on final work program documents. The STA and its subrecipients also shall obtain prior approval for budget and programmatic changes as specified in 49 CFR 18.30 and for those items of allowable costs which require prior approval in accordance with the applicable cost principles specified in 49 CFR 18.22.

(b) Except for advance construction, authorization to proceed with the work program(s) in whole or in part shall be deemed a contractual obligation of the Federal Government pursuant to 23 U.S.C. 106 and shall require that appropriate funds be available for the full Federal share of the cost of work authorized. Those STAs that do not have sufficient FHWA planning and research funds or obligation authority available to obligate the full Federal share of the entire work program(s) may utilize the advance construction provisions of 23 U.S.C. 115(a) in accordance with the requirements of 23 CFR Part 630, subpart G. The STAs that do not meet the advance construction provisions, or do not wish to utilize them, may request authorization to proceed with that portion of the work program(s) for which FHWA planning and research funds are available. In the latter case, authorization to proceed may be given for either selected work activities or for a portion of the program period, but such authorization shall not constitute a commitment by the FHWA to fund the remaining portion of the work program(s) should additional funds become available.

(c) A project agreement shall be executed by the STA and FHWA Division Office for each statewide

transportation planning, metropolitan planning area transportation planning, or RD&T work program, individual activity or study, or any combination administered as a single Federal-aid project. The project agreement shall be executed after the authorization has been given by the FHWA to proceed with the work in whole or in part. In the event that the project agreement is executed for only part of the work program, the project agreement shall be amended when authorization is given to proceed with additional work.

§ 420.117 Program monitoring and reporting.

(a) In accordance with 49 CFR 18.40, the STA shall monitor all activities, including those of its subrecipients, supported by FHWA planning and research funds to assure that the work is being managed and performed satisfactorily and that time schedules are being met.

(b)(1) The STA shall submit performance and expenditure reports, including a report from each subrecipient, that contain as a minimum:

(i) Comparison of actual performance with established goals;

(ii) Progress in meeting schedules;

(iii) Status of expenditures in a format compatible with the work program, including a comparison of budgeted (approved) amounts and actual costs incurred;

(iv) Cost overruns or underruns;

(v) Approved work program revisions; and

(vi) Other pertinent supporting data.

(2) Additional information on reporting requirements for individual RD&T studies is contained in subpart B of this part.

(c) The frequency of reports required by paragraph (b) of this section shall be annual unless more frequent reporting is determined to be necessary by the FHWA; but in no case will reports be required more frequently than quarterly. These reports are due 90 days after the end of the reporting period for annual and final reports and no later than 30 days after the end of the reporting period for other reports.

(d) Events that have significant impact on the work program(s) shall be reported as soon as they become known. The type of events or conditions that require reporting include: problems, delays, or adverse conditions that will materially affect the ability to attain program objectives. This disclosure shall be accompanied by a statement of the action taken, or contemplated, and any Federal assistance needed to resolve the situation.

(e) A provision of the Federal-Aid Project Agreement requires both the preparation of suitable reports to document the results of activities performed with FHWA planning and research funds and FHWA approval prior to publishing such reports. The STA may request a waiver of the requirement for prior approval. The FHWA's approval constitutes acceptance of such reports as evidence of work performed but does not imply endorsement of a report's findings or recommendations. Reports prepared for FHWA funded work shall include appropriate credit references and disclaimer statements.

(The information collection requirements in §§ 420.117(b) and (c) for metropolitan planning areas have been approved by the OMB and assigned control number 2132-0529.)

§ 420.119 Fiscal procedures.

(a) SPR funds shall be administered and accounted for as a single fund regardless of the category of Federal-aid highway funds from which they are derived.

(b) PL funds shall be administered and accounted for as a single fund.

(c) Optional funds authorized under 23 U.S.C. 104(b)(1), 104(b)(3), and 157(c) used for eligible planning and RD&T purposes shall be identified separately in the work program(s) and shall be administered and accounted for separately for fiscal purposes. The statewide and, if appropriate, metropolitan transportation improvement program provisions of 23 CFR Part 450 must be met for the use of NHS, STP, or minimum allocation funds for planning or RD&T purposes.

(d) The maximum rate of Federal participation with funds identified in paragraphs (a) through (c) of this section shall be as prescribed in title 23, U.S.C., for the specific class of funds; unless, for funds identified under paragraph (a) or (b) of this section, the FHWA determines that the interests of the Federal-aid highway program would be best served without such match in accordance with 23 U.S.C. 307(c)(3) or 23 U.S.C. 104(f)(3). The FHWA also may waive the requirement for matching funds if national or regional high priority planning or RD&T problems can be more effectively addressed if several States and/or MPOs pool their funds. Requests for 100 percent Federal funding must be submitted to the FHWA Division Office for approval by the Associate Administrator for Program Development (for planning activities) or the Associate Administrator Research and Development (for RD&T activities).

(e) The provisions of 49 CFR 18.24 are applicable to any necessary matching of FHWA planning and research funds.

(f) Payment shall be made in accordance with the provisions of 49 CFR 18.21.

§ 420.121 Other requirements.

(a) The financial management systems of the STAs and their subrecipients shall be in accordance with the provisions of 49 CFR 18.20(a).

(b) Program income, as defined in 49 CFR 18.25(b), shall be shown and deducted to determine the net costs on which the FHWA share will be based, unless an alternative method for using program income is specified in the Federal-Aid Project Agreement.

(c) Audits shall be performed in accordance with 49 CFR 18.26 and 49 CFR Part 90.

(d) Acquisition, use, and disposition of equipment purchased by the STAs and their subrecipients with FHWA planning and research funds shall be in accordance with 49 CFR 18.32(b).

(e) Acquisition and disposition of supplies acquired by the STAs and their subrecipients with FHWA planning and research funds shall be in accordance with 49 CFR 18.33.

(f) In accordance with 49 CFR 18.34, STAs and their subrecipients may copyright any books, publications, or other copyrightable materials developed in the course of the FHWA planning and research funded project. The FHWA reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, the work for Government purposes.

(g) Procedures for the procurement of property and services with FHWA planning and research funds by the STAs and their subrecipients shall be in accordance with 49 CFR 18.36(a) and, if applicable, 18.36(t). The STAs and their subrecipients shall not use FHWA funds for procurements from persons (as defined in 49 CFR 29.105) who have been debarred or suspended in accordance with the provisions of 49 CFR Part 29, subparts A through E.

(h) The STAs shall follow State laws and procedures when awarding and administering subgrants to MPOs and local governments and shall ensure that the requirements of 49 CFR 18.37(a) have been satisfied. STAs shall have primary responsibility for administering FHWA planning and research funds passed through to subrecipients, for ensuring that such funds are expended for eligible activities, and for ensuring that the funds are administered in accordance with this part, 49 CFR Part 18, and applicable cost principles.

(i) Recordkeeping and retention requirements shall be in accordance with 49 CFR 18.42.

(j) The STAs and their subrecipients are subject to the provisions of 37 CFR Part 401 governing patents and inventions and shall include, or incorporate by reference, the standard patent rights clause at 37 CFR 401.14, except for § 401.14(g), in all subgrants or contracts. In addition, STAs and their subrecipients shall include the following clause, suitably modified to identify the parties, in all subgrants or contracts, regardless of tier, for experimental, developmental or research work: "The subgrantee or contractor will retain all rights provided for the State in this clause, and the State will not, as part of the consideration for awarding the subgrant or contract, obtain rights in the subgrantee's or contractor's subject inventions."

(k) In accordance with the provisions of 49 CFR Part 29, subpart F, STAs shall certify to the FHWA that they will provide a drug free workplace. This requirement can be satisfied through the annual certification for the Federal-aid highway program.

(l) The provisions of 49 CFR Part 20 regarding restrictions on influencing certain Federal activities are applicable to all tiers of recipients of FHWA planning and research funds.

(m) The nondiscrimination provisions of 23 CFR Parts 200 and 230 and 49 CFR Part 21, with respect to Title VI of the Civil Rights Act of 1964 and the Civil Rights Restoration Act of 1987, apply to all programs and activities of recipients, subrecipients, and contractors receiving FHWA planning and research funds whether or not those programs or activities are federally funded.

(n) The STAs shall administer the transportation planning and RD&T program(s) consistent with their overall efforts to implement section 1003(b) of the Intermodal Surface Transportation Efficiency Act of 1991 (Pub. L. 102–240, 105 Stat. 1914) and 49 CFR Part 23 regarding disadvantaged business enterprises.

(o) States and their subrecipients shall administer subgrants to universities, hospitals, and other non-profit organizations in accordance with the administrative requirements of OMB Circular A–110 as implemented by the U.S. DOT in 49 CFR Part 19, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations.

(p) Reports and other documents prepared under FHWA planning and research funded grants or subgrants awarded after August 22, 1994, must be in metric units.

Subpart B—Research, Development and Technology Transfer Program Management

§ 420.201 Purpose and applicability.

The purpose of this subpart is to implement the provisions of 23 U.S.C. 307 and to prescribe Federal assistance requirements for research, development, and technology transfer (RD&T) activities, programs, and studies undertaken by States with FHWA planning and research funds. The requirements of this subpart and subpart A of this part are applicable to work performed by the States and their subrecipients with FHWA planning and research funds.

§ 420.203 Definitions.

Unless otherwise specified in this part, the definitions in 23 U.S.C. 101(a) and Part 420, subpart A, are applicable to this subpart. As used in this subpart:

Applied research means the study of phenomena relating to a specific known need in connection with the functional characteristics of a system; the primary purpose of this kind of research is to answer a question or solve a problem.

Basic research means the study of phenomena whose specific application has not been identified; the primary purpose of this kind of research is to increase knowledge.

Cooperatively funded study means an RD&T study or activity, administered by the FHWA, a lead State, or other agency, that is funded by some combination of a State's contribution of FHWA planning and research funds, FHWA administrative contract funds, 100 percent State funds, or funds from other Federal agencies.

Development means the translation of basic or applied research results into prototype materials, devices, techniques, or procedures for the practical solution of a specific problem in transportation.

Final report means a report documenting a completed RD&T study or activity.

Intermodal RD&T means research, development, and technology transfer activities involving more than one mode of transportation including transfer facilities between modes.

National Cooperative Highway Research Program (NCHRP) means the cooperative RD&T program directed toward solving problems of national or regional significance identified by States and the FHWA, and administered by the Transportation Research Board, National Academy of Sciences.

Peer review means a review conducted by persons who are knowledgeable of the management and operation of RD&T programs. This may include but is not limited to representatives of another State, the FHWA, American Association of State Highway and Transportation Officials, Transportation Research Board (TRB), universities or the private sector.

RD&T activity means a basic or applied research, development, or technology transfer project or study.

Research means a systematic controlled inquiry involving analytical and experimental activities which primarily seek to increase the understanding of underlying phenomena. Research can be basic or applied.

Technology transfer means those activities that lead to the adoption of a new technique or product by users and involves dissemination, demonstration, training, and other activities that lead to eventual innovation.

Transportation Research Information Services (TRIS) means the TRB-maintained computerized storage and retrieval system for abstracts of ongoing and completed RD&T activities, including abstracts of RD&T reports and articles.

§ 420.205 Policy.

(a) It is the FHWA's policy to administer the RD&T program activities utilizing FHWA planning and research funds consistent with the policy specified in § 420.105 and the following general principles in paragraphs (b) through (g) of this section.

(b) State transportation agencies shall provide information necessary for peer reviews.

(c) States are encouraged to develop, establish, and implement an RD&T program, funded with Federal and State resources, that anticipates and addresses transportation concerns before they become critical problems. To promote effective utilization of available resources, States are encouraged to cooperate with other States, the FHWA, and other appropriate agencies to achieve RD&T objectives established at the national level and to develop a technology transfer program to promote and use those results.

(d) States will be allowed the authority and flexibility to manage and direct their RD&T activities as presented in their work programs, and to initiate RD&T activities supported by FHWA planning and research funds, subject to the limitation of Federal funds and to compliance with program conditions set forth in subpart A of this part and § 420.207.

(e) States will have primary responsibility for managing RD&T activities supported with FHWA planning and research funds carried out by other State agencies and organizations and for ensuring that such funds are expended for purposes consistent with this subpart.

(f) Each State shall develop, establish, and implement a management process that ensures effective use of available FHWA planning and research funds for RD&T activities on a statewide basis. Each State is permitted to tailor its management process to meet State or local needs; however, the process must comply with the minimum requirements and conditions of this subpart.

(g) States are encouraged to make effective use of the FHWA Division, Regional, and Headquarters office expertise in developing and carrying out their RD&T activities. Participation of the FHWA on advisory panels and in program review meetings is encouraged.

§ 420.207 Conditions for grant approval.

(a) As a condition for approval of FHWA planning and research funds for RD&T activities, a State shall implement a program of RD&T activities for planning, design, construction, and maintenance of highways, public transportation, and intermodal transportation systems. Not less than 25 percent of the State's apportioned SPR funds shall be spent on such activities, unless waived by the FHWA, in accordance with the provisions of § 420.107. In addition the State shall develop, establish, and implement a management process that identifies and implements RD&T activities expected to address highest priority transportation issues, and includes:

(1) An interactive process for identification and prioritization of RD&T activities for inclusion in an RD&T work program;

(2) Utilization, to the maximum extent possible, of all FHWA planning and research funds set aside for RD&T activities either internally or for participation in national, regional pooled, or cooperatively funded studies;

(3) Procedures for tracking program activities, schedules, accomplishments, and fiscal commitments;

(4) Support and use of the TRIS database for program development, reporting of active RD&T activities, and input of the final report information;

(5) Procedures to determine the effectiveness of the State's management process in implementing the RD&T program, to determine the utilization of the State's RD&T outputs, and to facilitate peer reviews of its RD&T Program on a periodic basis and;

(6) Procedures for documenting RD&T activities through the preparation of final reports. As a minimum, the documentation shall include the data collected, analyses performed, conclusions, and recommendations. The State shall actively implement appropriate research findings and should document benefits.

(b) Each State shall conduct peer reviews of its RD&T program and should participate in the review of other States' programs on a periodic basis. To assist peer reviewers in completing a quality and performance effectiveness review, the State shall disclose to them information and documentation required to be collected and maintained under this subpart. Travel and other costs associated with peer reviews of the State's program may be identified as a line item in the State work program and will be eligible for 100 percent Federal funding. At least two members of the peer review team shall be selected from the FHWA list of qualified peer reviewers. The peer review team shall provide a written report of its findings to the State. The State shall forward a copy of the report to the FHWA Division Administrator with a written response to the peer review findings.

(c) Documentation that describes the management process and the procedures for selecting and implementing RD&T activities shall be developed and maintained by the State. The documentation shall be submitted by the State to the FHWA Division office for FHWA approval. Significant changes in the management process also shall be submitted by the State for FHWA approval. The State shall make the documentation available, as necessary, to facilitate peer reviews.

§ 420.209 RD&T work program.

(a) The State's RD&T work program shall, as a minimum, consist of an annual or biennial description of activities and individual RD&T activities to be accomplished during the program period, estimated costs for each eligible activity, and a description of any cooperatively funded activities that are part of a national or regional pooled study including the NCHRP contribution. The State's work program should include a list of the major items with a cost estimate for each item.

(b) The State's RD&T work program shall include financial summaries showing the funding levels and share (Federal, State, and other sources) for RD&T activities for the program year. States are encouraged to include any activity funded 100 percent with State or other funds.

(c) Approval and authorization procedures in § 420.115 are applicable to the State's RD&T work program.

§ 420.211 Eligibility of costs.

(a) Unless otherwise specified in this section, the eligible costs for Federal participation in § 420.113 are applicable to this part.

(b) Costs for implementation of RD&T activities in conformity with the requirements and conditions set forth in this subpart are eligible for Federal participation.

(c) Indirect costs of a State transportation agency RD&T unit are allowable to the extent specified in § 420.113(b).

(d) Indirect costs of other State agencies and organizations are allowable if supported by a cost allocation plan and indirect cost proposal in accordance with OMB requirements.

§ 420.213 Certification requirements.

(a) Each State shall certify to the FHWA Division Administrator before June 30, 1995, that it is complying with the requirements of this subpart. For those States unable to meet full compliance by June 30, 1995, the FHWA Division Administrator may grant conditional approval of the State's RD&T management process. A conditional approval shall cite those areas of the State's management process that are deficient. All deficiencies must be corrected by January 1, 1996. A copy of the certification shall be submitted with each work program. A new certification will be required if the State significantly revises its management process for the RD&T program.

(b) The certification shall consist of a statement signed by the Administrator, or an official designated by the Administrator, of the State transportation agency certifying as follows: I (name of certifying official), (position title), of the State (Commonwealth) of _____, do hereby certify that the State (Commonwealth) is in compliance with all requirements of 23 U.S.C. 307 and its implementing regulations with respect to the research, development and technology transfer program, and contemplate no changes in statutes, regulations, or administrative procedures which would affect such compliance.

(c) The FHWA Division Administrator shall determine if the State is in compliance with the requirements of this subpart.

§ 420.215 Procedure for withdrawal of approval.

(a) If a State is not complying with the requirements of this subpart, or is not performing in accordance with its RD&T management process, the FHWA Division Administrator shall issue a written notice of proposed determination of noncompliance to the State. The notice shall set forth the reasons for the proposed determination and inform the State that it may reply in writing within 30 calendar days from the date of the notice. The State's reply should address the deficiencies cited in the notice and provide documentation as necessary.

(b) If the State and Division Administrator cannot resolve the differences set forth in the determination of nonconformity, the State may appeal to the Federal Highway Administrator.

(c) The Federal Highway Administrator's action shall constitute the final decision of the FHWA.

(d) An adverse decision shall result in immediate withdrawal of approval of FHWA planning and research funds for the State's RD&T activities until the State is in full compliance.

PART 511—RESEARCH AND DEVELOPMENT (R&D) STUDIES AND PROGRAMS; GENERAL [REMOVED]

3. Chapter I of title 23, CFR, is amended by removing and reserving part 511.

[FR Doc. 94-17908 Filed 7-21-94; 8:45 am]

BILLING CODE 4910-22-P

APPENDIX B

MEMORANDUM APPROVING THE NEW YORK STATE RD&T PROGRAM

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

TO: H.L. Peyrebrune, Dep. Comm. for Pol. & Res., 506-5, MC 0506
M.J. Cuddy, Ofc. of Engineering, 504-5, MC 0504
M.J. McCarthy, Ofc. of Mgmt. & Finance, 511-5, MC 0511
K.W. Skiatte, Ofc. of Operations, 503-5, MC 0503
N.R. Schneider, Ofc. of Public Trans., 502-5, MC 0502
W.S. Caswell, Strat. Plng. & Mgmt. Sys., G17-4, MC 0445

FROM: T.W. Clash, Plng. & Prog. Mgmt. Group, 514B-5
TWC

SUBJECT: APPROVED PROPOSAL FOR CREATION OF A COORDINATED RESEARCH, DEVELOPMENT AND TECHNOLOGY PROGRAM

DATE: DEC 12 1994

This memorandum is to distribute a copy of a current version of the proposal approved by the Department for the creation of a coordinated transportation research program. This proposal was sent to you on November 2, 1994 for review and approval. Technical Services Division "staffed" the proposal throughout the Department. With the exception of minor clarification, the response by ECPC of the proposal was supportive. For this reason, it was decidied against convening the entire ECPC membership to discuss this agenda item.

For your edification, attached is a final copy of the proposal for the creation of a coordinated research, development and technology program.

TWC:RJC

APPENDIX C

MEMORANDUM RENAMING THE TRANSPORTATION RESEARCH AND DEVELOPMENT BUREAU

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

TO: Assistant Commissioners
Regional Directors
Division Directors

FROM: Paul J. Mack, Technical Services Division, MC 0862 PJMack

SUBJECT: TRANSPORTATION RESEARCH AND DEVELOPMENT BUREAU

DATE: December 19, 1994

To address the Department's growing research needs and policy objectives set by state and federal leaders, the Technical Services Division proposed the creation of an expanded Department-wide research and technology transfer program. The program will provide the organizational focus to the existing, yet fragmented research activities within the Department. It will systematically define and effectively coordinate the research and technology transfer process in accordance with proposed federal requirements. It will provide the capabilities, mechanism, expertise, and strategies necessary to create an effective interactive, efficient RD&T process that will pave the way to the realization of the Department's envisioned goals.

To more properly describe the changed role of the Engineering Research and Development Bureau in implementing this proposal, the Engineering Research and Development Bureau has officially changed it name to the Transportation Research and Development Bureau effective January 1, 1995.

PJM:RJP:nat

APPENDIX D

FHWA REQUIREMENTS AND NYSDOT RESPONSIBILITIES
IN THE COORDINATED RD&T PROGRAM

FHWA REQUIREMENTS AND NYSDOT RESPONSIBILITIES IN THE COORDINATED RD&T PROGRAM

Section 420.207 of the Federal Register "Final Rule" (see p. 39 in Appendix A of this document) specifies six "highest priority transportation issues" for the attention of state transportation agencies. The following NYSDOT groups are responsible for addressing these issues and for consequent actions.

1. **Federal Requirement:** "An interactive process for identification and prioritization of RD&T activities for inclusion in an RD&T work program."

   NYSDOT Parties Involved: R&B, RDC, TR&DB (RCG and T2 Team), all NYSDOT employees. All the Department's staff are utimately responsible for identifying needed RD&T activities. Through RCG's annual inventory process, suggestions are solicited from throughout the Department, to be screened against strategic needs defined by RDC and AP. Needs are then ranked by REB as well as RDC. REB identifies the broad emphasis areas on which the program should focus, and RDC selects the priority projects according to REB's areas of emphasis. T2 activities, in turn, are responsibilities of the T2 Team. This identification/ranking process is founded on interaction among all participants, and its success depends on cross-functional cooperation of all participants.

2. **Federal Requirement:** "Utilization, to the maximum extent possible, of all FHWA planning and research funds set aside for RD&T activities either internally or for participation in national, regional pooled, or cooperatively funded studies."

   NYSDOT Parties Involved: REB and RDC. REB formulates an annual spending plan/budget ensuring use of all SPR funds for research and technology transfer activities. TR&DB's RCG processes the tentative consolidated agenda for the research program, and distributes projects to appropriate program areas (e.g., in-house, NCHRP, etc.)

3. **Federal Requirement:** "Procedures for tracking program activities, schedules, accomplishments, and fiscal commitments."

   NYSDOT Parties Involved: RCG, with guidance from the TR&DB Director, tracks program activities, schedules, accomplishments, and fiscal commitments.

4. **Federal Requirement:** "Support and use of the TRIS database for program development, reporting of active RD&T activities, and input of the final report information."

   NYSDOT Parties Involved: RCG initially screens research suggestions through TRIS literature reviews, reports progress during studies, and verifies that reports are forwarded for TRIS input.

5. **Federal Requirement:** "Procedures to determine the effectiveness of the State's management process in implementing the RD&T program, to determine the utilization of the State's RD&T outputs, and to facilitate peer reviews of its RD&T Program on a periodic basis."

NYSDOT Parties Involved: TR&DB'S RCG and T2 Team. RCG periodically evaluates the research program (evaluators include REB and AP, and indepenent peers as FHWA advises), and prepares annual performance reports (including documentation of degree of goal achievement). T2 Team evaluates the technology transfer component of the annual program, soliciting user feedback and recommendations.

6. **Federal Requirement:** "Procedures for documenting RD&T activities through the preparation of final reports. As a minimum, the documentation shall include the data collected, analyses performed, conclusions, and recommendations. The State shall actively implement appropriate research findings and should document benefits."

   NYSDOT Parties Involved: RCG, T2 Team, and TWGs. RCG is responsible for preparing the final reports documenting research results. TWG monitors research-in-progress and approves final reports. Findings will be implemented primarily through designated TWG members, assisted by the T2 Team, who also document the benefits of implementation.

01588
LRI